THE AMERICAN ELEVATOR AND GRAIN TRADE.

Entered at the Post Office at Chicago, Ill., for transmission through the mails at second-class rates.

A MONTHLY JOURNAL DEVOTED TO THE ELEVATOR AND GRAIN INTERESTS.

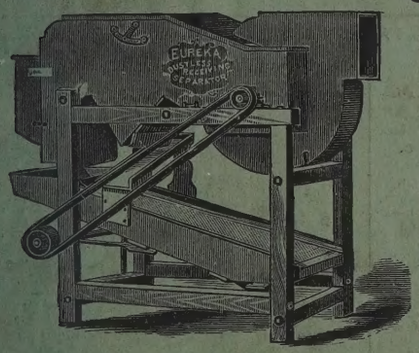
PUBLISHED BY Mitchell Bros. Company. (INCORPORATED.) | Vol. III. | CHICAGO, ILLINOIS, MARCH 15, 1885. | No. 9. | SUBSCRIPTION PRICE, ONE DOLLAR PER ANNUM.

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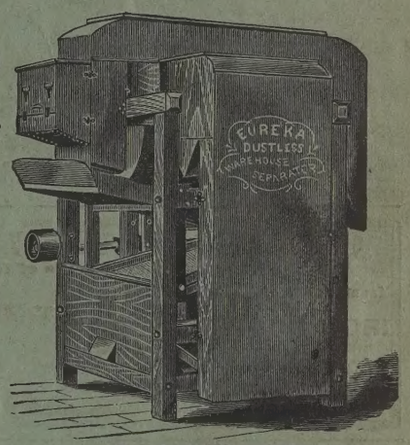
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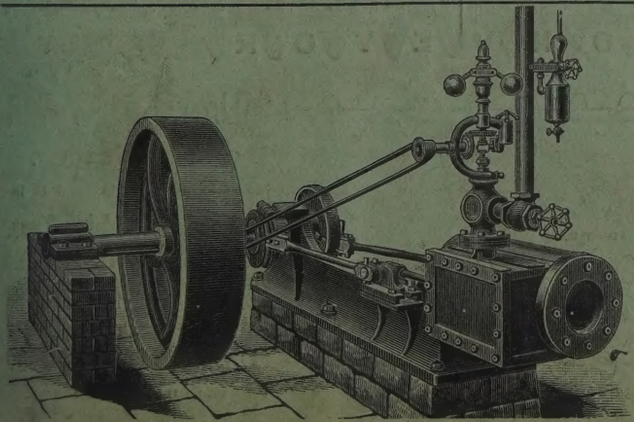
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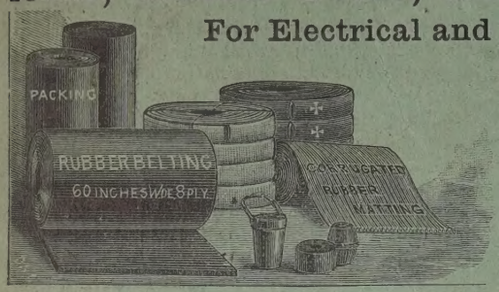
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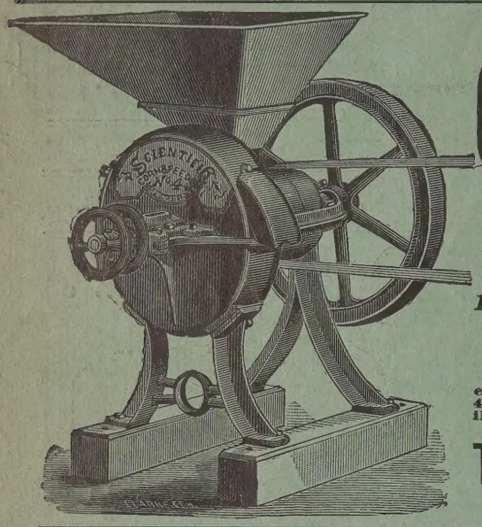
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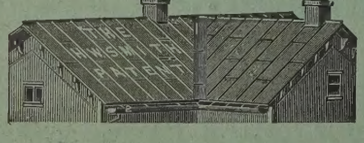
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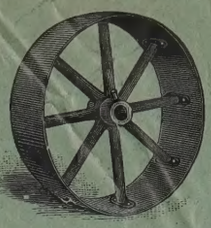
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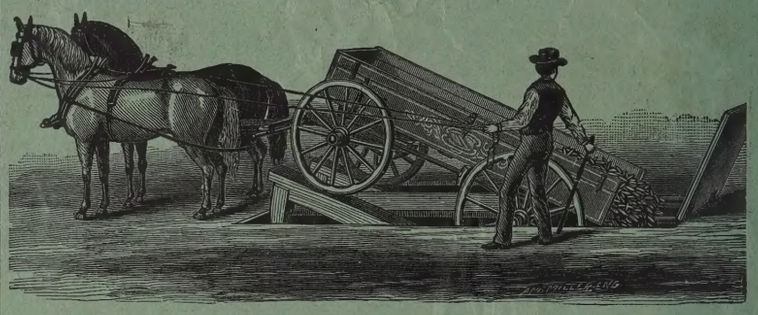
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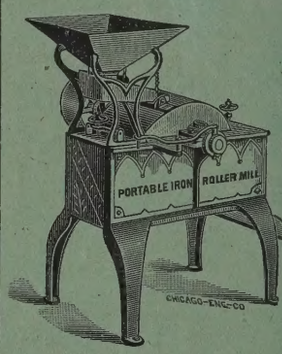


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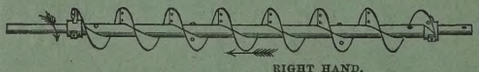


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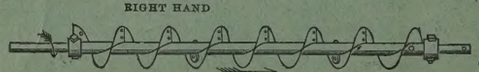
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THE AMERICAN ELEVATOR AND GRAIN TRADE.

A MONTHLY JOURNAL DEVOTED TO THE ELEVATOR AND GRAIN INTERESTS.

PUBLISHED BY Mitchell Bros. Company. (INCORPORATED.) | Vol. III. | CHICAGO, ILLINOIS, MARCH 15, 1885. | No. 9. | SUBSCRIPTION PRICE, ONE DOLLAR PER ANNUM.

N. R. DERBY & CO.'S ELEVATOR AT BURLINGTON, IOWA.

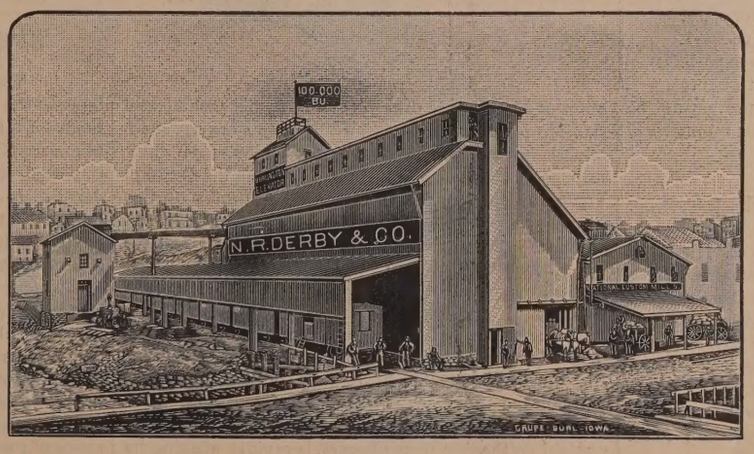
The combination of a number of associated operations in such a manner that the same power and corps of operatives may easily perform the entire work required, is one of the most important steps in the economics of modern manufacturing and transportation improvements which have enabled the American grain grower and dealer to successfully meet the constantly increasing and highly stimulated competition of other countries, both old and new. In the grain traffic, to be able to combine rapid and economical handling of a ce real like wheat, is one of the most important factors in the price it will obtain and the readiness of demand in the world's market.

We present our readers, on this page, with an illustrated description of one of these combinations of an elevator and mill, each worked independently with dispatch and economy, viz.: The mill and elevator of N. R Derby & Co., at Burlington, Iowa, which, with the features referred to, possess special interest to the shippers of grain from Western Iowa, Kansas, and Nebraska. The main point of interest that presents itself to mill men is the cheap and convenient storage of the elevator independent of the mill from which it is detached.

The mill proper is a two-story and basement building, 80x120 feet, which contains engine, boilers, and all the recent improvements to make a complete modern mill. Detached, and at a distance of sixty feet, is the elevator, for the storage and handling of the grain. The power for the house is taken from the mill by a rubber belt, and it is so arranged as to be stopped or started up independently of the latter. The storage capacity is 100,000 bushels; the cleaning and handling capacity 5,000 bushels per hour. The peculiar location of the side-track allows standing room for only eight cars at a time; but by the use of the Harrison Conveyor the entire eight can be unloaded and reloaded without moving them, thus saving an immense amount of time and labor.

The storage bins are in two rows, built of solid cribbing, and are filled and emptied by a Harrison Conveyor, which passes entirely around the bins; the upper chain is used for filling and the lower for emptying bins and carrying the grain back to the foot of elevator. On the opposite side of the building from the railroad track is a series of dumps, capable of holding several thousand bushels of grain, as it is received from farmers' wagons; these are all unloaded by the Harrison Conveyor, which carries the ear corn to sheller and the small grain to foot of elevator. The ear corn, wheat, rye, barley, timothy, and flax seed are handled in rapid succession, and without a particle of mixing.

The elevator is supplied with a Western Sheller and Cleaner. The entire building is most completely equipped for thorough cleaning, rapid handling and moving the grain. Western shippers are taking the advantage of having their grain cleaned before sending it to market. The firm of Derby & Co., during these depressed times, when many are idle, have been taxed to the utmost, night and day, to supply the demand on them, showing the advantages of making good use of modern improvements. Their manager says that many of the conveniences were obtained from reading the columns of the AMERICAN ELEVATOR AND GRAIN TRADE; and by correspondence with its advertisers, the entire plan was carried out without any expensive drawings or elaborate plans, and the proprietors think that they can do more work, at less expenditure of power and labor, than any elevator in the West.



ELEVATOR OF N. R. DERBY & CO., BURLINGTON, IOWA.

As an illustration of the ruinous effect of the excessive elevator charges at Buffalo upon the grain-carrying trade between this city and New York, it should be known that the number of canal boats engaged in this traffic has dwindled from 7,000 in 1877 to 1,500 in 1885. And unless the New York Legislature comes to the relief of the business by regulating and lowering these charges, the grain commerce of these two cities will soon be seriously injured.

CORN AND HOGS.

"Observer," under date of Feb. 13, writes *Bradstreets'* in regard to the probable price of corn during the current season. The total crop, as estimated by the Department of Agriculture, was 1,795,000,000 bushels, or a yield of 25.8 per acre; the acreage of 1879 was nearly 10,000,000 less, but the yield was 29.1 bushels per acre; had our last year's crop been proportionate, it would have been 2,028,000,000 bushels. As a matter of fact our increase in the production of this cereal has only kept pace with that of our population; the conclusion would be that there is more likely to be an increase of price than a decline. But the foreign requirements, owing to the general good crops abroad of cereals and potatoes, must modify any estimates of that demand.

The market value of corn is largely dependent on the hog and its products. The excellent feeding qualities of the grain last year show themselves in the weight of the hogs sent to the Chicago market, which, taking the quarter ended Feb. 1, was 15 9-10 pounds per hog greater than last year received during the same period; the total excess during the period named at this market in the weight of live hogs over that of 1883-4 was over 112,000,000 pounds. The production of lard alone is 5 per cent. greater than a year ago; but this is offset by a demand 51 per cent. greater, due doubtless largely to the low prices. The figures showing the comparative demand of all the hog products during the quarter mentioned of the present and last year, are respectively 250,000,000 and 192,000,000 pounds. This is 30 per cent. larger than in the preceding season, and, excluding lard, would be 26 per cent. greater.

The writer refers to the anticipated increase of this season's packing. But he notes that the forwarding to market of hogs that the farmers could not with the old crop fatten and care for, was very large, and that they now have a younger stock to feed that require more time. He estimates that the increase over the winter's packing of a year ago will not be over 700,000 hogs, and would not be surprised if the aggregate did not reach 6,000,000. By a tabular statement the writer shows that the increase of total hog products exported in the period from Nov. 1, 1884, to Feb. 7, compared with the same period of the previous year, was about 39,000,000 pounds.

George Smith, the Englishman, is said to have made $100,000 scalping wheat on this market in three weeks.

HOW EASTERN FARMERS LOOK UPON WESTERN GRAIN RATES.

The questions of railway freight rates on grain, etc., in the discussion of the Reagan Inter-State Commerce Bill, presents a widely different view as seen from the standpoint of the Eastern farmer and shipper to that of the Western producer. By the former the charge is freely made that the trunk line roads cause a loss of some $100,000,000 per year to the agricultural development of the East; or that the latter are taxed to that amount for building up the West. The commissioner states that the average rate for dry goods was 40 cents per hundred pounds, while that on grain, which constitutes 70 per cent. of the East-bound trade, was only 25 cents per hundred pounds; when given freights are carried at less than cost, some other merchandise must make good the deficiency. In 1883 these roads were estimated to have lost $47,253,854 in carrying over 180,500,000 bushels that we exported. They recovered this loss by charging high local rates between non-competing points, etc. The Pennsylvania Road, it is said, compels the coal and iron interests and the home farmers to make this deficiency good. The Philadelphia *Record* claims to have seen bills showing that the Pennsylvania farmers, during the three spring months of that year, paid an excess of 40 cents per car over the average rates, for the carrying of the grain from Center Co. to New York.

It is therefore claimed that the producers of the Middle states are helping to pay the transportation costs of Western grain. These older states, in this competition, have a largely more valuable plant in lands than the Western farmer on his cheap, rich, virgin soil, and much greater expenses in its cultivation and in keeping his land in a good condition. The demand then made by these Eastern farmers is that this unjust discrimination in charges shall not be permitted, and that this policy of the roads combining to so raise their means shall be stopped by national legislation. In our regard for the wonderful growth of the West in wealth and prosperity, there is a general national pride, and much, it is said, has been endured on these sentimental grounds; but in the end the strict obedience of the rules of just and equitable dealing to all parties, brings the highest results. Commissioner Loring has remarked in a communication to the U. S. Senate: That while it is gratifying to national pride to make an exhibit of surplus production, it is the conviction of intelligent, progressive agriculturists, that the stimulation of excessive exportation of corn, wheat and other raw products, is unwise and injurious, depleting the soil, preventing the healthful rotation of crops, and delaying the symmetrical development of rural industry.

A GREAT SCHEME.

A suit was recently instituted by one E. Hnaff *vs.* the Phœnix Grain and Stock Exchange of this city, a notorious bucket shop that has been of late continuously before the public in connection with the Board of Trade market reports, which reveals a somewhat novel method of a kind of faro game under the terms of grain deals. The price-maker is a Martin & Shakel's clock, which automatically throws out marked cards, two at a time, at the rate of 240 per hour, its full capacity being 1,560. These cards are each marked with the different names of the cereals or stocks, and some figures indicating a fraction, say one-half, etc. At each turn the card that comes out above is reckoned as indicating a rise in the price, or *vice versa*, according to the amount of the fraction. These numbered cards are the subject of bets, called deals, and are posted on the blackboards just as were the regular market prices. The Exchange takes all the bets and is allowed one-eighth of a cent per bushel on a grain deal, or five cents per barrel on pork, etc. If the clock is worked fairly the Exchange has the usual advantage of the "bank" in faro; but the chances of fraud are very large and accord with the whole spirit of the game. Of course there is not the least connection with any real prices in the market; it offers simply a new method for fools to get rid of their money and play into the hands of these bucket-shop sharks.

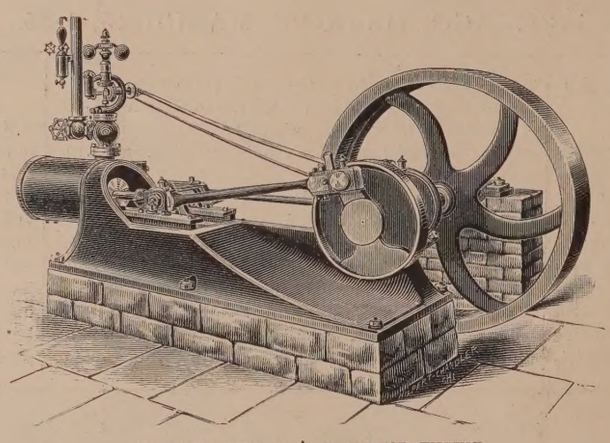
The Pillsburys, of Minneapolis, pay $90,000 a year for insurance on their mills, elevators and other property in the state.

STEAM POWER IN ELEVATORS.

As the spring opens and brings with it a renewal of building operations the enterprising grain merchant finds himself pondering the questions: Shall I put steam power in my elevator, and how much will it cost? Will the increased fire hazard and outlay of capital be more than made good to me by the improved condition in which my grain goes to market, and the increased convenience in its handling? What will be the additional cost of operating my elevator? These questions bring to light the bottom facts, and if properly considered will serve as a safe guide to the practical business man.

Of course, we are going on the supposition that you have a good, substantial elevator building, operated by horse power, and that you have everything that the times afford for handling grain economicaliy, with that kind of power. You have just pulled through the winter and have two blind horses on your hands that are staggering around in the well-beaten path in a way that impresses upon you the fact that their places must be supplied with new horses, or else you must buy a steam outfit. You hold in your hand the returns from your last three cars of grain, that went "rejected" because not properly cleaned; you compute your loss and say: "Could I have had steam power, with its continuous steady motion, my grain would have graded."

Then, too, there is sometimes a boom on the market, like the September corn corner last fall, when grain must be handled rapidly to get it to market at all. We know of one elevator firm in Nebraska, that commenced shelling fourteen car loads on Monday morning, shelling all day and night until 6 P. M. Tuesday, when they shipped to Chicago, and had receipts from the Board of Trade on Thursday, at 11 A. M. Their profits on this one shipment were more than enough to pay for all the machinery in their elevator; they also realized from the sale of their cobs $1.25 to $1.50 per load, which would go a great way toward paying their fuel bill and engineer.



THE FROST MFG. CO.'S ELEVATOR ENGINE.

Among the firms that are well and favorably known to the elevator trade is the Frost Mfg. Co., of Galesburg, Ill., who for thirty years have been building up a substantial and increasing trade throughout the West. Their elevator engine, illustrated on this page and advertised on the first page of cover, is rapidly winning its way into popular favor among grain men, and is a model of strength in its design, and of simplicity of construction. These engines are so easily handled that the service of an expert engineer is not required. All the parts are made strictly to gauge and are interchangeable; all wearng surfaces are scraped to a perfect bearing, and no pains are spared to make the engines thoroughly standard throughout. Steel connecting rods, steel cross-head pins and crank pins are used in all the engines. The company make their own boilers, and carry a large stock of both on hand ready for immediate shipment. The firm also furnish pulleys, shafting, and hangers of every variety of their own manufacture; they take contracts to furnish complete outfits, including cups, belting, sprockets and chain, boots and spouts of all kinds, shellers, cleaners, etc. They solicit correspondence, and an opportunity to bid for any and all classes of elevator supplies.

The Dakota Grain Commission cost the territory $4,467.75.

LATE PATENTS.

Issued on February 10, 1885.

DUMPING CART.—Michael Bowes, Raleigh, N. C. (No model.) No. 302,078. Filed Oct. 2, 1884.

FANNING MILL.—Edwin H. Pease, Racine, Wis. (No model.) No. 312,157. Filed Nov. 12, 1884.

GRAIN SEPARATOR AND CLEANER.—Lee Lockwood, Des Moines, Iowa. (No model.) No. 311,904. Filed May 12, 1884.

Issued on February 17, 1885.

PORTABLE ELEVATOR.—Sidney W. Rowell, New York, N. Y. (No model.) No. 312,387. Filed Dec. 10, 1883.

DUMPING WAGON.—George W. Reed, East Bloomfield, N. Y. (No model.) No. 312,295. Filed Nov. 4, 1884.

Issued on February 24, 1885.

BELT SHIFTER.—William G. Vernon, Philadelphia Pa. (No model.) No. 313,035. Filed Aug. 8, 1884.

ENDLESS OR PAN CONVEYOR.—Frank L. Pearce, Chicago, Ill., assignor to the Link Belt Machinery Co., same place. (No model.) No. 312,891. Filed Dec. 18, 1884.

SHIPPER DEVICE FOR BEVEL FRICTION DRIVING WHEELS.—Frank L. Pearce, Chicago, Ill., assignor to the Link Belt Machinery Co., same place. (No model.) No. 312,890. Filed Dec. 18, 1884.

BLAST REGULATOR FOR GRAIN SEPARATORS, ETC.—J. Grube, Newark, Ohio. (No model.) No. 312,992. Filed June 6, 1884.

GRAIN WINNOWER.—Adam Strott, New Brunswick, N. J. (No model.) No. 312,929. Filed June 18, 1884.

Issued on March 3, 1885.

CORN SHELLER.—John Q. Adams and Oliver R. Adams, Marseilles, Ill. (No model.) No. 313,042. Filed Oct. 20, 1884.

ELEVATOR.—Thomas Bell, Catskill, N. Y. (No model.) No. 313,162. Filed Nov. 26, 1884.

HORSE POWER.—Knut S. Knutson, Denver, Dak. (No model.) No. 312,214. Filed Dec. 21, 1884.

SPECULATION IN GRAIN BAGS.

The relative importance to the grain shipping interest of the Pacific coast of the grain bag, universally used there for this traffic, and the elements of uncertainty as to the supply, as all the burlap used in the jute bags is imported, and a large proportion of the sacks, has rendered them a speculative market product, almost as much so as the grain that they hold. But it is noticed, in view of the special disappointments of the past season, that no calculations, however apparently mathematically exact, have furnished any secure data for estimates. However certain these calculations show that a deficiency will exist, still, when required, the bags make their appearance, and speculators get left. This is the view presented by a journal of that section, with the facts all patent before it. Last spring the prospect for these bag deals was made particularly bright, but the result of the summer's shipping was a surplus left over of 16,000,000 bags. The prospects, says the writer, are not better for the coming season. Added to the above reserve there are said to be 12,000,000 bags in transit making over 28,000,000 in sight. There will also be an addition from the home manufacture, while the number required for 1885 is not likely to exceed 35,000,000. The prices are low, about six cents for forward delivery, but this may continue throughout the season although present rates are said barely to cover the cost of importation. Importers are said to be holding back on that account.

The old question of the railroads charging more for hauling goods short distances to the interior than for long distances to competing points, is one which has been discussed a good deal. The *Farm Journal* says: "Railroads carry a bushel of corn from Council Bluffs to Chicago, 500 miles, for eight cents, but charge eleven cents from Des Moines to Chicago, about half the distance, and this is only a single sample. Here is an opportunity for legislative interference in the interests of 'the whole people' that should be promptly improved."

J. G. CHICK'S ELEVATOR, AT ROCKFORD, ILL.

The city of Rockford affords a striking example of what diversified industry can do for a community. Located in one of the richest agricultural regions of the West, it was not content to remain a country town, doing business for the neighboring farmers. With shrewd business foresight the people of Rockford have steadily called attention to her fine water power and invited manufacturers to come there and locate. The welcome extended to enterprises of every description, has inured to the substantial benefit of Rockford, and made it, with its twenty thousand busy people, one of the model cities of the West; and it may well serve as an exemplar of what can be done to build up a community by public spirit.

Numbered among the substantial industries of Rockford are the flour and rye mills of J. G. Chick. Although these might well form the subject of an extended article, it is our purpose in this connection to notice only one feature—the new elevator which has just been erected in connection with these mills for Mr. Chick by Messrs. Savage & Love, elevator builders of that city, and which it was our good fortune to inspect lately while on a visit to Rockford. This elevator, which, by the way, will rank among the largest mill elevators in the West, is located near the Chicago, Milwaukee & St. Paul, the Chicago & Northwestern and the Chicago & Iowa division of the C., B. & Q. R. R., with all three of which it has track connections. The building is 55 feet in length, 35 feet wide and 75 feet in height. It is a frame structure with the roof and sides covered with corrugated iron, furnished by John A. Knisely, of Chicago, thus rendering it fireproof externally.

The power is supplied in a manner which aptly illustrates the capabilities of power transmission. The 150-barrel mill of Mr. Chick is driven by water power, and power is supplied to the rye mill by wire rope and sheaves. From the rye mill, power is supplied to the elevator by Ewart Detachable Chain Belting made by the Link Belt Machinery Co. of this city. We may here note that 250 feet of this chain belting is used in the elevator for different purposes.

The side track enters the house and affords room for five cars at once. Owing to the location of the elevator a second track will enter the house at the second story, thus giving additional facilities for receiving grain. A carload of grain can be unloaded in the elevator in ten minutes. Fairbanks' Track Scales and Howe Scales are used for the various weighing operations. On the first floor is one of Savage & Love's Grain Dumps for receiving grain from farmers' wagons. One excellent feature of the dump is that it can be lowered the full distance to discharge a wagon load of loose grain, or can be partially tipped when the grain to be unloaded is in sacks.

The storage capacity of the elevator, which is 50,000 bushels, is provided for by fifteen bins, each 35 feet deep. In the cupola are 22 spouts for spouting into the different bins and into the adjacent mill, and three spring clutches for throwing in and out of gear, supplied by the Link-Belt Machinery Co., of Chicago. The elevator buckets were furnished by the Webster & Comstock Mfg. Co., also of this city.

The elevator is built throughout in the most substantial manner; while its handling arrangements are compact and convenient, requiring the minimum of attendance. Messrs. Savage & Love, of Rockford, had the entire contract for the elevator and machinery, and the manner in which they did their work is highly creditable to their skill, and shows that the work was done by master hands. Although the elevator was completed so short a time ago as March 1, it has already demonstrated in use its convenient and admirable qualities.

A late cable says that Danubian corn is being offered freely in Liverpool for May and June delivery at prices very much less than those asked for American.

A commercial writer says that "the reduced acreage and known damage will make the shortage in winter wheat for 1885 fully 20 per cent., which means some 75,000,000 less than last year on the total crop."

A rich young farmer of Dakota, says the Chicago *Grocer*, having announced that he would never marry until wheat sold at $1 per bushel, a neighboring farmer who has a daughter willing to relieve the loneliness of the situation, has offered to take his entire crop at $1 a bushel and give him a check for it at the wedding.

DE MUTH'S CHECK SCALE BEAM.

Any business man would condemn as worthless a system of book-keeping which would not disclose errors in footing or transferring accounts. But such a system would certainly be no more untrustworthy than is a system of weighing grain by which errors may occur but can seldom be detected or corrected. A car of grain is *weighed* when the scale balances with the load; but to know *positively* how *much* it weighed, it is necessary to know *positively* that the weighman's record of the weights is correct. Now his record, being a copy of figures, is just as liable to be wrong as any other man's copy of figures. To have an elaborate system of checks and balances for the grain book-keeper, and none whatever for the weighman, is a palpable "case of misplaced con-

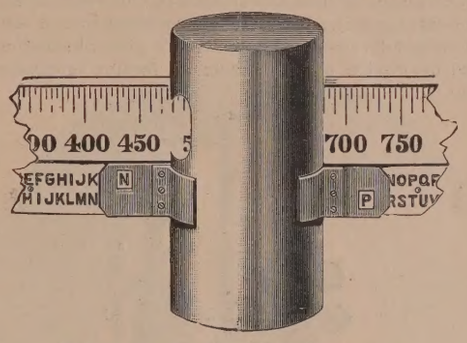


FIG. 1. DE MUTH'S CHECK SCALE BEAM.

fidence," because a weighman "who was never known to make a mistake" is already capable of such a prodigious degree of confidence in himself as to make other peo-

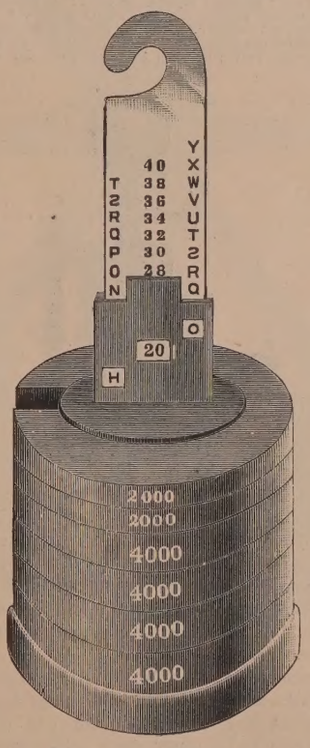


FIG. 2. COUNTREPOISE.

ple's confidence in him quite superfluous. Unlike other accountants, his errors, whether they be many or few, go down into unwritten history—like the mystery of Billy Patterson's assailant—as "one of those things which no fellow can find out." This fact is so well known among grain shippers and commission merchants that a weighman's certificate of weights has come to be a veritable farce, which can be surpassed only by a certain seriocomic act entitled "An Affidavit," in which the clause, "To the best of my knowledge," can be very reasonably construed into meaning nothing whatever. The "plot" is capable of being still more complicated by the appearance upon "the boards" of the shipper, who fiercely declares that he *knows* his weights are correct, "because he weighed that car himself."

That weighmen in elevators sometimes make mistakes may be reasonably suspected. It is but natural that having no personal interest in the weight of the grain upon the scale, they should do their work more or less mechanically. Their sense of the importance of weighing five hundred bushels of wheat naturally becomes blunt by the monotony of the operation being so many times repeated. But, unfortunately, they are charged with nearly all the errors made by shippers as well. This is inevitable as long as neither the shipping nor receiving weighman is able to show even reasonable proof of the correctness of his records. There is no *evidence* on either side that the records were *even carefully* made, or indeed of the ordinary precaution having been taken of "checking back."

The usual explanations as to the standard quality of the scales, the experience and trustiness of the weighman, etc., etc. (*ad lib.*) are as available for one party as for another. There can be no satisfactory showing on either side until there is an *absolute proof* of the tallies. With no check upon his carelessness or over-confidence it is but natural that a weighman should come to have unlimited faith in his accuracy. To carry figures "in his head" from the scale where he happens to be weighing to the scale where his tally book happens to be, is a feat which is so easily acquired by any smart weighman that his orders requiring him to have his tally book directly under the scale beam where he is weighing are, as he waxeth in experience, very likely to be disregarded as an altogether superfluous precaution. Yet the most experienced bookkeeper in transferring 34,250 from one page of his ledger to another, is liable to transpose it to read 32,450 instead. And it is not nearly so far from one page of his ledger to another as it is from one scale to another.

Realizing the importance of a check and proof of weighmen's records, Mr. J. A. Demuth, of Toledo, has invented an improved scale beam which most effectually fills this "long felt want." The illustrations given on this page, showing sections of the beam and countrepoise of a Hopper Scale, need but little explanation. Attached to the poise on the beam is a small plate, through openings in which is seen a certain combination of letters. The countrepoise is supplied with an indexing slide, which must be raised before loose weights can be hung on, when it falls down upon weights indicating weight and letters in the same manner as the indexing plate on the poise. *For every possible weight there is a particular combination of letters*, which, being entered in the tally book with the weights, indicate the *exact location* of the poise on the beam and the number of weights on the countrepoise. With the ordinary beam the only clue to this information is the weighman's figures, which may be right or wrong. With the improved Check Beams the combinations of letters form a positive proof of the weighman's figures; *if his figures are correct*, and a *certain indication* of what they *should be* if his figures *are incorrect*, because the weighman could not have recorded certain combinations of letters unless they were actually seen through the slots as shown in the illustration. This is simply the principle of double-entry bookkeeping applied to weighing. It is simply balancing the *record* of weights with the scale, which in the operation of weighing is second only in importance to balancing the scale with the load. By this simple device we are enabled to balance our elevator accounts from the elevator receipt back to the actual figures upon the scale, instead of to the weighman's *improved copy* of the figures upon the scale.

The improved Check Beam is protection for the weighman, because he is not suspected of having made an error when he has not. It requires no longer time to do the weighing, as the weighman can read and enter his check letters as rapidly as he can check back his weights, which every weighman is *supposed* to do. It incurs no extra office work, as the check letters, in weighing net, can be instantly reduced to bushels by means of a key—thus affording a balance of the weights *in letters*, with the weights *in figures*. In short, with the Check Beam, elevator companies may have a system of accounts which will include proof of their most important figures instead of a system which proves all *but* the most important figures. Mr. De Muth has had fourteen years' experience in elevator accounts, and therefore thoroughly understands the value of checks as the only means by which accounts may be kept accurate. Interested parties can address J. A. DE MUTH, Toledo, Ohio, who will gladly answer correspondents.

The barley raised in Spokane county, Wash. ter., is equal, if not superior, to the celebrated malting Canada barley.

THE STOCKS OF WHEAT.

The Cincinnati *Price Current* of March 5 presents its readers with the results of special investigations as to the wheat stocks in the country, exclusive of the visible supply as reported. It is shown that the twelve states, Ohio, Indiana, Illinois, Iowa, Missouri, Kansas, Nebraska, Minnesota, Wisconsin, Michigan, Kentucky and Tennessee, which produced 67 per cent. of last year's crop, have stocks amounting to 110,000,000 bushels, or 32 per cent. of the total production. The estimates of the other states add 52,000,000, aggregating 162,000,000, as against 115,000,000 bushels a year ago, according to private estimates, or 119,000,000 by the Department of Agriculture. Adopting the latter, the entire wheat stocks, including the visible supply, is about 205,000,000 bushels, as compared with 150,000,000 a year ago; including the flour estimated as wheat, the compared aggregates are respectively 243,000,000 and 195,000,000 bushels, the flour being 38 and 45 in million bushels.

CORN LAWS AND THE PRICE OF WHEAT.

The Chicago *Inter-Ocean* notices the fact that English statesmen misrepresent, as it claims, the factors of the tariff question as it concerns that country, Europe and the United States. In illustration it gives the following extract from a speech of John Bright at Birmingham not long since on this matter.

"If I were in the United States, a citizen of that country, I should speak about it more freely than I feel willing to do here. But, forty years ago, I recollect writing an article for a newspaper in this country on the question of the corn laws, and one simple argument I used was this—if any intelligent artisan of Birmingham or an industrious weaver of Lancashire produced a given quantity of work in a week, or a fortnight, or a month, he was not allowed to provide for the wants of his family by exchanging it with the farmer in the United States, who would give him, say, two barrels of flour for it, but he was compelled by law to exchange it with the farmer in Lincolnshire or Norfolk, who would give him only one barrel of flour. That was the state of things forty years ago. Now, curiously enough, exactly that same state of things exists in the United States, only it does not throw any taxation on the article of corn. But now the farmers of the United States of America produce their wheat and their flour, and they are not permitted to exchange them with the artisan of Birmingham or the weaver of Lancashire, but they are compelled to go to the manufacturers of their own country, who will not give them half, or nearly half, as much as the American farmer would get from Lancashire and Birmingham. This is not a matter which I mention for the sake of reproach to the people of the United States; they have no interest in going wrong, and by and by they will find out the course which is right, if there be a course right, which is different from the one they now pursue."

The writer in reply says that published figures amply show that the repeal of the corn laws in 1846 exercised no influence on the price of breadstuffs, and that for the eleven years following the price of wheat averaged in England twelve cents per bushel higher than in the five preceding years; during the eleven preceding years it was somewhat higher, owing to the fact that in the years 1836-40 England exported wheat, and that the general prices were high. Says the *Inter-Ocean*, the change in tariff changed the points of production from England to other countries, but produced no effects on the price of wheat. Of the 4,000 articles on which it is said this country assesses a protective tariff, 3,995 sell at as low prices as in England, says the writer, while the distorted view presented above he attributes to the close relation of the Englishman's pocket to his conscience.

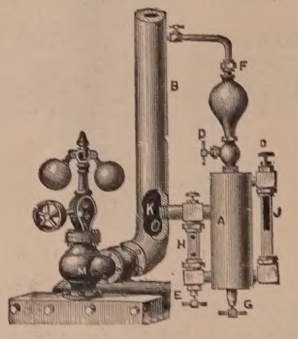
POOLS AND FREIGHT RATES.

The Chicago *Evening Journal* discusses the question of the effect of railway pools, showing that they decrease the average freight rates. When competition is unchecked by such arrangements, there occur times of cuttings of rates that seem beneficial to the farmer and shippers, but these are local and temporary, seldom helping at the times and points of need, while they are attended by great uncertainties in market prices, and generally are offset by other and more injurious discriminations. The roads are sensitive to public censure, as leading to higher injurious granger legislation, and they naturally wish the rates under pool contracts to be, or so appear, lower than without contracts. The mutual jealousies and distrust of these great competing corporations also prevent the creating of pool rates that are much above what will yield a living profit, as they feel no security against other companies seizing on any such advantages to obtain custom on lower rates. This is not a favorable view of the moral or ethical condition of their management, but it results, through the natural greed of human nature, in the pools lowering the rates, and is, in the long run, an advantage to the trade and producers.

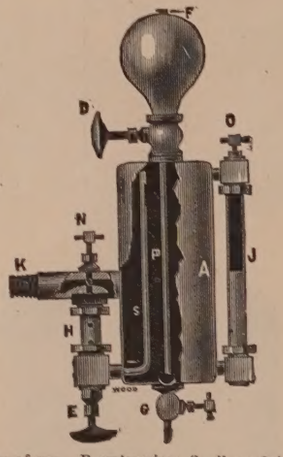
DETROIT SIGHT FEED LUBRICATORS.

That machinery requires lubricating, all will acknowledge, but how to lubricate perfectly and at the same time economically is a problem that has for many years engaged the attention of mechanics and inventors. The first problem to be solved was how to give to each part of the machine just so much of the lubricant as was necessary. The next was to secure a continuous and uniform feed. Then how to save in the quantity of oil used, and when these questions had been satisfactorily solved, to construct a lubricator that should be simple and perfect in action.

After many years of experiment the Detroit Lubricator Company has been able to perfect a cup which covers the entire ground. It is simple in construction and one of the best devices ever invented. We give illustration and description of this continuous feeding lubricator cup.



A, oil reservoir; B, steam pipe; O, oil filler; D, water feed valve; E, valve to regulate flow of oil; F, steam tube and condensing chamber; G, valve to draw off water to prevent freezing, etc.; H, visible feed water chamber; J, glass indicator; K, oil discharge pipe; M, governor valve; N, valve to correct pulsation or unsteadiness in feed.



Sectional view of cup. P, water pipe; S, oil conduit.

Our second illustration gives a sectional view with water pipe and oil conduit.

The principle upon which this cup is based is that the oil should be introduced drop by drop into the steam, where it would be vaporized and carried to every part of the machine reached by the steam, thus securing perfect lubrication and preventing friction and wear.

This cup not only shows what quantity of oil is in the cup, but it contains a "sight feed" glass which shows just how fast the oil is being used, as it passes in sight of the engineer, drop by drop, to the parts to be lubricated, he being able to give his cylinders just what is needed, although but a single drop in five minutes only were required. In these cups any clean oil may be used whether white or black. They are made in sizes to hold from half a pint to one gallon, and there is a very large and rapidly increasing demand for them.

First prizes have been awarded this cup at the Fair of the American Institute, New York, 1880 and 1881, at the Millers' International Exposition, Cincinnati, 1880, and at the International Cotton Exposition, Atlanta, 1881, and wherever exhibited. They are applied with equal success to stationary, marine, or locomotive engines, air-brakes or steam pumps. It is also in order to say that this cup is fully protected by many letters patent owned exclusively by this company which have been sustained judicially in several hotly contested cases, so that purchasers need have no fear in their purchase and use, and particular stress is laid upon the sole ownership by this company of their "sight feed feature," which makes their lubricators the most popular and desirable in use. The office of the Detroit Lubricator Company is at 98 Griswold street, Detroit, Mich., to whom orders, applications for information and price list should be sent. We will add further that a cup is sent to responsible parties on twenty days' trial when desired, so that it costs nothing to give them a trial.

THE MINNESOTA GRAIN AND RAILROAD BILLS.

The Legislature of Minnesota having adjourned, after passing the bills relative to the elevator and railway control by the state, which have caused considerable anxiety on the part of those interested, lest the granger element should show its power by very radical measures, the question now is presented as to the character of the measures adopted and their probable effects on the grain trade of the state. Elsewhere in this issue will be found a statement containing the main features of the bills as they finally passed the House, which will probably be a surprise to most observers from the fact that of the choice left by the action of the Senate, the more conservative plan was adopted in the face of the evident desire of the Senate to go to greater extremes. On the whole the bills may be said to closely follow those of Illinois and Massachusetts, and which have proven quite satisfactory. The *Pioneer Press* has interviewed a number of the prominent elevator men, rail way managers and grain dealers on the subject, and while there are many shades of differences expressed as to the outcome, and some regret that the stronger law was not enacted the general sentiment is favorable, while there seems to be no intention on the part of the roads to dispute the requirements made upon them as to warehouse and car facilities for private parties. Of those interviewed, we give the following condensed views:

Representative Myers, who was a supporter of the House bills, stated that their scope was to make in fact an open market, which would not be the case if the private houses were all made public, as country merchants would be shut out almost entirely. The terminal houses handling large amounts of grain for the public were properly under state control. He said that it was not expected that farmers would demand cars, very few would do so, but the merchants who bought their grain would use them, being able to ship at will to any consignee. There were some grain men who thought the bill would fail to relieve the farmers, as what they wanted was a receipt from any warehouse, as good as negotiable paper. Wm. Tummerman, manager of the St. Paul elevator, was in favor of state inspection, but he did not see that the measure passed would benefit the farmers; he considered the mixing clause unnecessary. Gen. Baker, railway commissioner, had not examined the warehouse bill, but thought that the railway law would insure an open market. He had no doubt about the constitutionality of this law, which was the same as those of Iowa, Illinois and Wisconsin; he did not think the roads would try to circumvent it. As a result, elevators will spring up everywhere where needed.

President Hill, of the Manitoba Road, said that company would willingly co-operate with any commissioners who were reasonable; he did not think the grain bill would make an open market at local points. The grain men of Minneapolis as a rule are favorable to the law, although many express the opinion that the Senate bill was preferable. The elevator men, however, such as VanDusen & Co., said that the passage of the Senate bill would have closed their houses. President G. S. Barnes, of the Northern Pacific, said that his company had always guaranteed grades at Duluth, and would do the same at St. Paul and Minneapolis if the grades were made uniform at the three points. Vice-President Marshall, of the St. Paul Chamber of Commerce, who was active in urging the Senate bill, was in favor of the warehouse receipts, the large, responsible houses could do the business better than a large number of small houses; he was satisfied with the railway law, but did not think that it would give the farmers a free market in the same sense as the Senate bill. Commission men generally, however, disagree with Mr. Marshall in this matter. Chief-Inspector Maxwell did not think the measure would benefit the farmer, and would afford them no protection; he illustrated by examples from Duluth. He thought that it would be difficult to find competent inspectors who would give $5,000 bonds and work on present salaries.

THE MEDART PULLEY.

We give on this page an illustration of the Medart Patent Pulley, made by the Medart Patent Pulley Company of St. Louis, Mo. This pulley has now been before the public for six years, and hence has passed beyond the period of probation through which all new or novel inventions must go before the general public will accept them. The Medart Pulley has been tried and tested, and its remarkable value is now attested by the warmest commendations of hundreds of the leading manufacturers of the country. So favorable has been the reception of this pulley, and so strongly indorsed is it as to its many superior qualities, that within six years the manufacturers have built up what, if we are not mistaken, is the largest pulley business in the world. This pulley combines the minimum weight with the maximum strength, and by its improved construction and process of manufacture, is entirely free from the defects that have characterized many other kinds of pulleys. The advantages of these pulleys are that they are stronger than the old pulley of our grandfathers' day, owing to the absence of shrinkage strains, the arms being straight, and cast with the hub in one piece without a rim.

It has more arms, the number of which increases according to diameter of pulley, as does also the thickness of rim, which is wrought iron and ground perfectly smooth, which is the cause of a great saving of power and belting, not having the slippage or wear as on pulleys more rough and porous.

This pulley is thoroughly balanced for all speeds without the necessity of adding extra weights, owing to the fact that the rim is uniform in thickness and width, and that every part is equi-distant from the center. The spider is first ground concentrically with the axis of the pulley, after which the rim is attached and also ground from the same center. The center of gravity of a completed pulley made by this process is made to coincide absolutely with its geometrical center.

As its weight is less by one half than the ordinary pulley it can be run at a higher speed, and enables the transmission of the same power with much lighter shafting, hangers, etc.; also a great saving in transportation.

It is made in split or whole up to ten feet in diameter, and guaranteed for any strain from the lightest to the heaviest. The manufacturers guarantee the prices beyond competition in the first cost, while the indirect saving in their use is even more important.

The wonderful growth and increasing demand for these pulleys—fully 250,000 of them being now in use—has been the cause of the opening of a store in Chicago at 24 and 26 South Canal street and 99 and 101 West Second street, Cincinnati, Ohio, where they carry a vast stock and variety. Indeed, it would seem almost an impossibility to call for such a size as could not be supplied by them, from 9″ to 4 feet in diameter, whole or split. The Chicago branch is under the management of Mr. R. J. Puster and J. R. Wendover at Cincinnati.

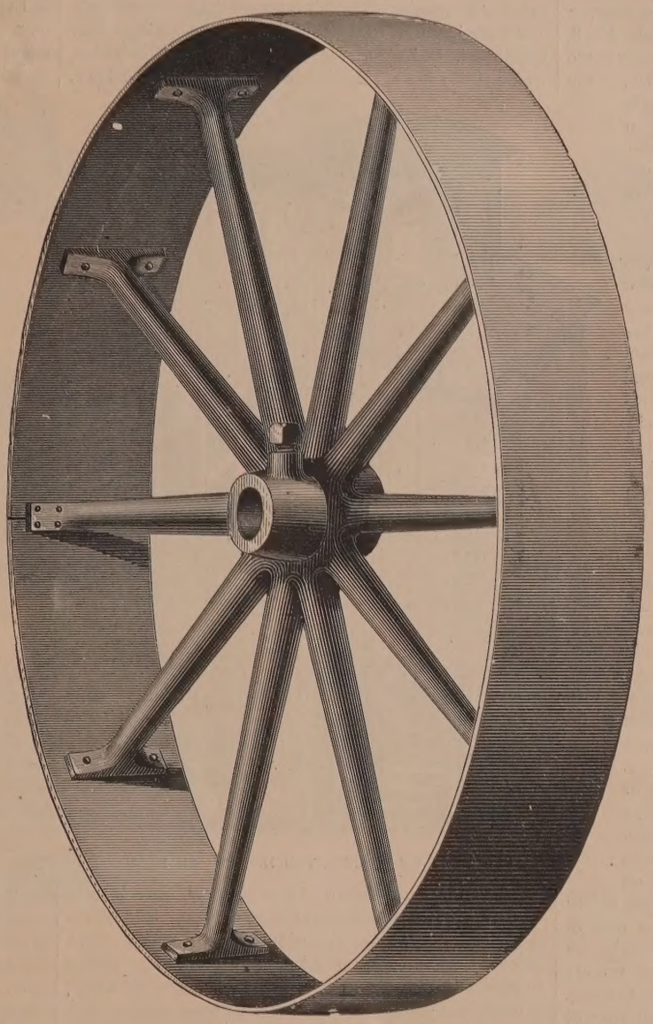
In addition to their pulley business this company is prepared to furnish everything in the line of power transmitting machinery, their facilities for the manufacture of this being of the very best. All the work sent out by this company is guaranteed, and they will not make anything which they cannot guarantee. Catalogues will be furnished upon application.

On Nebraska Day, at the World's Exposition, each visitor was presented with a memento in the shape of an elegant little bag of Nebraska corn.

The following prices of the "good olden time" are vouched for by a country correspondent of a St. Louis firm. The time is 1840 and the articles are these: Pork, 1¼ cents per pound; corn, 10 cents per bushel; wheat, 25 cents per bushel; potatoes, 9 cents per bushel; chickens, 6¼@8¼ cents per dozen; cotton, 7@8 cents per pound. And then the countryman asks: If the farmers could only command these prices for corn and wheat, in 1840, when they did not have the improved agricultural implements of to-day, why can they not now raise the same articles for more money?

CHEAP WHEAT.

In view of the excitement caused in the Chicago market lately by the report of the increased duties on grain levied by the French Government, the *San Francisco Post* discusses this matter and the present market indications with reference to the interests of the Pacific coast. The question is an open one as to the future course of England, which buys two-thirds of our grain exports; as to the policy of so-called "fair trade;" should she go back toward the policy of the "corn laws," it would, says that journal, be utterly destructive of our foreign grain traffic, as matters are. Wheat has been lower the past year than for over a century. In 1765 it sold in England for about $1.03 per bushel. The highest average price in this country since 1854 was in 1865, $1.95 per bushel, and the lowest in 1859, 94 cents, being 98 cents in 1860; these two are the only years in this long period wherein the price was below a dollar per bushel. This is also in the face of an important war, and when serious military complications are threatened.



THE MEDART PULLEY.

England imports over $15 worth of food per capita of her population, nearly three times the amount she imported in 1862; and still, if compelled, she could struggle along on her own resource. One of the complications of the Irish problem has been the competition of her producers with America. The cheap labor of the old country, with her land rents, does not offset the cheap productive lands of this country, acres of which could be bought with a year's rental there. The writer draws the conclusion that whatever may be the future of the tariff issue, this wheat growing and exportation, whereby we are sending away the fertility of our matchless soil, is not for our true interest in the long run, while any change like that of the French policy should occur in Great Britain we should suffer far more deeply than at present. In this view the *Post* says that every new agricultural or manufactured product should be heartily welcomed, that would tend to render California independent of foreign legislation; that state is a world in itself; change cannot wither her infinite varieties, whose value should be made the most of and be carefully cherished.

THE TRADE.

John Cavers, fanning mill manufacturer of Galt, Ont., has made an assignment.

Nordyke & Marmon Co., Indianapolis, Ind., are building a number of mills on the Pacific coast.

The La Du-King Cockle Machine Co., of Rochester, Minn., has been levied upon by the sheriff.

D. T. Weed, of Lanark, Ill., manufacturer of the Angle Sieve Separator, reports business as very satisfactory.

The Link-Belt Machinery Company of this city are fitting up an office in their establishment for the Ewart Manufacturing Company, who have removed their plant to Indianapolis Ind.

The Richmond City Mill Works, of Richmond, Ind., write us that while they do not boast a boom, they are getting their share of the work that is being done, and that their sales are larger than for the corresponding term last year.

The Medart Patent Pulley Company of St. Louis, Mo, increased their sales very considerably the present month as compared with January. Their Northwestern business shows a steady improvement, and their sales from Chicago are decidedly encouraging.

In a recent "write-up" of Moline, the *Inter-Ocean* of this city has the following complimentary notice of a well-known concern: "The Barnard & Leas Manufacturing Company manufacture grain-cleaning machinery, corn-shellers and flour and bran packers. This company have extensive buildings fitted up with the latest and best machinery. Their buildings consist of the main building, which is built of brick, and is 50x52 feet and four stories high. The first floor is used for offices and machine shop, the second for the wood department, the third for varnishing, finishing and pattern-making, and the fourth for storage. A wood shop, 52x40 feet, and three stories high, with a new extension 60x90 feet; a machine shop, general construction and storage building, 54 x80 feet, three stories high; foundry, 60x80 feet; warehouse, 60x60 feet, two stories high; oil and varnish house 15x15 feet: brush factory, 16x20 feet; sand and storage shed, 48x15 feet; cleaning house, lumber sheds and stables; exclusive of the outbuildings, this company occupy over 67,000 square feet of floor space. There are about 150 men employed in this establishment, and the pay-roll amounts to about $2,000 a week."

Notwithstanding our large crop of corn, the exports are not so large as last year, showing a falling off since the 1st of September of about 5,500,000 bushels to England and the Continent. We can find a use for all our corn at home, and it pays better to turn it into hogs, cattle and whisky. A Western correspondent of the *Journal* says: "The movement in corn for an eighteen hundred million crop, so far, has been very small. With corn now in Illinois, at all interior receiving points, at from 32 to 35 cents, there is no glut at local receiving points. Farmers do not seem any more inclined to sell their corn in Illinois since the advance than they were when it was worth from 20 to 25 cents per bushel. The real truth is that the great bulk of our corn crop is now converted into hogs and cattle, and it is only the renter and poor, shiftless farmer that sells a bushel of corn in its raw state. Iowa is also a great home consumer of corn, and I presume you would smile when I make the statement that Iowa, in many localities, did not grow in 1884 more corn than she will need before another corn crop can be made. With hogs coming to Chicago at the rate of from 20,000 to 50,000 per day, it is no wonder that our corn receipts have been so small."

CHICAGO GRAIN INSPECTION.

T. W. Lowrey, of Lincoln, Neb., writes to the Chicago *Tribune* as follows: "I noticed an article in your valuable paper of the 7th headed 'Knifing the Chicago Grain Trade,' and laying it to rates alone. This you should not do, although I will agree with you that rates are a little against Chicago. Your system of inspection has as much to do with taking grain around Chicago as anything else. Our Western railroads have got tired trying to force dealers to ship their grain to your city when they know that they can get much better inspections at other markets, such as St. Louis and Baltimore. I have myself shipped several hundred cars of corn to Baltimore this season, and so far I have not had one car that did not grade as good as No. 2. We have also had a great many cars inspected in St. Louis and none have graded less than No. 2. Of late I have sent a few scattering cars to your city to test your grade, but I find that Brother Irwin is as hard to please as ever, or he has taken a great fancy to his favorite grade, No. 3, and won't go back on it. They say the corn is a little too soft. I would like to know when it will get dry. We have had no rain since September and very little snow. Some time ago I noticed an article in your paper regarding the Appeal Committee Now I think all this trouble regarding grades could be obviated if you would get three or five practical millers on your appeal committee that are not in any way interested in the grading and place the fees for their services at $2 per car, to be paid by the party taking the appeal, whether they change the inspection or not. As it is now it costs us $5 to appeal a car if they sustain the inspection, and as they are not practical grain men, I think they are often inclined to think that it is best to maintain the inspections. Some time ago I had two cars miss grade in your city, and our commission merchants held them out to call the committee on, but before they could find them the railroad company told them that they would charge demurrage on the cars if not unloaded. There had already $6 per car demurrage accrued and no inspection committee reported on them; they thought best to sell the grain before any more charges would accrue. As it is I am $6 per car out, as the railroad folks say it was no fault of theirs that the inspection committee did not find the grain. I claim that wheat that will make good, sweet flour, and is reasonably clean, should grade No. 2. I also think that corn that is dry enough to grind and the meal will keep a reasonable length of time, should grade No. 2. We should not be compelled to furnish corn or wheat that will keep in an elevator in large quantities two or three years just to protect men that want something to gamble on. Give us a liberal inspection and a small reduction on freights east of your city, and it won't be long before our corn will be billed in Chicago, if it goes east in place of via St. Louis. Please don't think because we have not shipped you much corn of late that we are out of it, as Nebraska has several millions yet to spare. If Brother Irwin will only make us another visit, we will show him plenty of corn, and it won't look like the corn he saw last time he was here.

Reports from Missouri, Kansas and Illinois say that the snow is about all gone and shows a bad looking wheat crop. The plant has a black, dead look, and is believed to be fully a month late in growth as compared with last year.

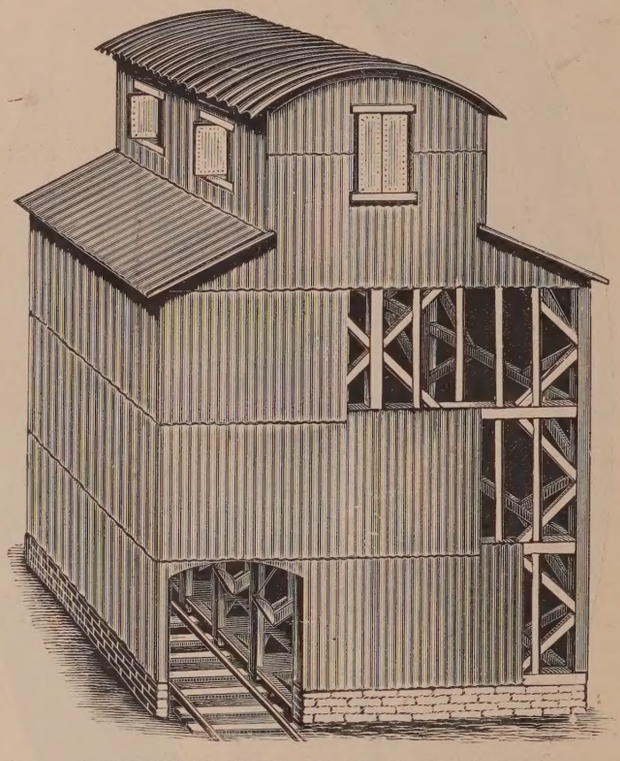
Letters from Tennessee, Kentucky and Southern Ohio unite in describing the prospect for winter wheat as a gloomy one. Some of them say that the wheat never promised worse than now. Minneapolis millers have advanced wheat two cents a bushel.

A merchant of Indianapolis, Ind., recently speaking of the relative conditions of business men and the farmers at present, said that a bushel of grain has a higher purchasing power now than for the past ten years, in hardware, cotton goods, sugar and coffee, newspapers, etc.; so that he thought the farmers had no right to complain, as the advantages were on their side, farm products being relatively higher than manufactured goods. This may be seen by looking at the commercial columns of the papers in our market centers; sugar and coffee are hardly more than half as high as five years ago.

CORRUGATED IRON FOR COVERING ELEVATORS.

The use of corrugated iron for sheathing buildings has steadily grown in favor in the past few years, especially since iron has become so cheap in price. The advantages of such use are so apparent that we hardly need enumerate them. First of all is its durability, as well as its superior architectural appearance. Corrugated iron is the strongest form of sheet iron, and its lineal rigidity imparts no inconsiderable strength to the building when properly applied. One very marked advantage of its use is the fire-proof qualities which it imparts to the exterior of buildings. This point is one that elevator owners appreciate, as elevators are exposed to a certain amount of hazard from their necessary proximity to railroads; and the sparks from moving trains constitute a very material fire risk. In any event, the building sheathed with iron is recognized as a superior risk by insurance companies, and their rates are made accordingly.

We are indebted to the Cincinnati Corrugating Co. of Cincinnati, Ohio, for the accompanying illustration, which shows the application of straight and curved corrugated iron to an elevator. In an elevator, when it fully settles down, the strain is on the outer wall. The corrugations are made cross-wise of the sheet, so that when applied they will run up and down the building, giving more elasticity to the iron, and preventing its buckling, as other iron siding does when the building settles. The sheets being laid with one inch lap, and the nails being one inch above the upper edge of lower sheet, the sheets are enabled to slide one inch in twenty-four inches, as the sides of the elevator settle. Each sheet is nailed two inches above the edge, and there is an inch lap allowing the sheet to slide an inch before the nails, by which it is attached, to impinge on the lower sheet; each sheet, in fact, acts independently.



APPLICATION OF CORRUGATED IRON TO AN ELEVATOR.

This is only one of the almost numberless applications that may be made of corrugated iron. We may add here the general claims made for their goods by the Cincinnati Corrugating Co., which we take from their handsome new catalogue just issued:

"With our improved machinery we make a perfect sheet of corrugated iron, guaranteed uniformly straight, flat, free from holes, warps, and all imperfections. Such a corrugated sheet as we make cannot be made in the ordinary way. Each sheet is sheared on ends and sides, making it perfectly square; every corrugation is perfect, having a uniform depth entire length of sheet. Side corrugations are finished to make a tight, neat joint, barely perceptible. Every corrugation is a channel in itself, carrying off its share of the water quickly—not allowing it to remain and rust the roof or flood the joints. It provides for contraction and expansion without warping or displacing the sheet. There is no solder to crack off with the heat as on tin. It is the cheapest covering considering its lasting qualities. It never wears out if kept properly painted. It is easier to put on than any other metal covering; any one who can drive a nail can attach it. It can be readily taken off and moved from one building to another."

Much interesting information may be gleaned from this catalogue, from which the above is taken, and which is sent gratis to applicants.

WHEAT GROWING.

The *American Cultivator*, a representative agricultural paper, discusses quite fully the various elements of the wheat problem, with special reference to the present non-remunerative prices, and the fear expressed by a great many that this condition may become permanent, due to the largely increasing fields of competition, such as India, Australia, etc. This view has given expression on the part of statisticians and our Agricultural Department, to the advice to the American producer to largely curtail wheat growing, replacing it with other products.

The *Cultivator* repeats the well-known fact that the world is always within a few months' time of an absolute scarcity of food, and that the reserves are comparatively small, consisting of only a few million bushels, and as this is true of all kinds of food supplies, only a brief period of non-production would bring the world to the verge of starvation; but with the extensive fields of production, in some of which there will always be a surplus, accessible through the immense modern facilities of transportation, there is little or no danger of such a condition.

At the present time, by the accidental coincidence of good crops everywhere, we have outrun for a brief period the active demand; but there is no evidence that the world's capacity for the consumption of wheat has diminished. In the use of this cereal there has always been some economy, varying with other factors, as wages and work, but the present low price has largely increased its use among the poorer classes, which will to a large extent remain permanent. Reports indicate from all quarters a decrease in wheat acreage, as the same conditions exist universally in the wheat growing countries. This is not altogether due to design, butlargely to the necessities of the producers.

The actual cost of production has not materially decreased, as the lands soon become exhausted, requiring expensive fertilizers, while the cost of tillage and harvesting and the delays and uncertainties of crop returns keep these expenses permanently high. It would require but a small, say, a ten per cent. reduction in the production of wheat in our country, from that of last year, to produce a scarcity; the smallest estimates of the reductions already made amount to 75,000,000 bushels. Without our wheat and flour exports, in the balance of trade we should,as matters now are,be compelled to export gold. This condition in our country finds its parallel in other wheat-producing countries; thus everything points to a large increase in market prices, due to this large reduction of product in the coming season. We know that this decline in wheat acreage has taken place in England, and may safely assume that it is widely extended.

The fears expressed as to the new fields of foreign competition, such especially as India, do not seem to have a good basis. A quarter of a century ago the vast, inexhaustible, fertile fields of Southern Russia, capable of producing the finest varieties of hard wheat, were pointed to as the coming destructive factor in our wheat trade; to-day but little is said of those great fields that require intelligent cultivation, ample means of transportation, etc., to be made available, while in fact the past few years has seen a decline in the Russian wheat competition in Europe. But, says the writer, we are not only keeping up with the progress of the world in all these matters, but are in general far in the lead, while our own rapidly-growing nation promises an almost limitless demand for our own use. The advice, therefore, given to producers just at this time, to voluntarily reduce their wheat acreage seems not to be judicious, and likely, if followed, to react injuriously to the real interests of producers as well as to the country in general.

ROLLER DETACHABLE CHAIN BELTING.

Detachable Chain Belting seems to be one of those things for which the uses are infinite. Already it has been applied to an endless variety of industrial operations and in all kinds of establishments, where its utility has been amply demonstrated. For instance, in the domain of elevating and conveying, chain belting is successfully used for the handling of clay, coke, broken stone, coal, ice, ores, grain of any kind, dry and spent tan, sand, phosphates, malt, sawdust, chemicals, slack, brick, lime, logs, plaster, raw sugar, seeds of all kinds, barrels, kegs, lumber, etc.

We give on this page a series of illustrations showing the salient features of the Anti-Friction Roller Detachable Chain Belting, made by the Roller Chain Belting Co., of Columbus, Ohio. Figs. 1, 2, 3 and 4 show the chain and its attachments suitable for elevators, flour mills, etc. Fig. 5 shows an elevator leg using the chain belting. Fig. 6 shows a wrought iron elevator boot, and Fig. 7 shows sections of straw and pulp carriers, and a section of conveyors for grain, malt, seeds, sawdust, etc.

Respecting the advantages of the Anti-Friction Roller Detachable Chain Belting, the manufacturers say:

"The action of the friction roller upon the sprocket wheels and links, greatly reduces friction and the usual wear upon both, by rolling when coming in contact with the sprockets, until seated, when it rests quietly till released by leaving the wheel, causing no scrape whatever. Again, when the chain is used for conveyors, in its movement on a plane or incline, rolls upon the rollers, thus requiring greatly reduced power to drive the conveyor, than is the case where chains are dragged upon their flat surface, thus admitting of a lighter chain to do the same work, its strength not being exhausted in dragging its own weight.

"The formation of the links is such, that the greatest strength to weight of met l is obtained, there being absolutely no weak point.

"The great wearing surface, strength and durability of the chain.—By an examination of the links and pin after detaching, it will be discovered that the wearing surface, or bearing, covers the entire portion of the pin between the end grooves or notches, there being no wear upon the ends of pin or outside links, for the reason that the pin is held rigidly, not moving in the square slot. The pins and links are also greatly strengthened by the tubular bearing, or that portion of the link upon which the roller is mounted, and which, taken together, makes the strain upon the pin a shearing strain upon the ends, thus giving it greater strength than it would otherwise have.

"It is detachable in every link, has great wearing surface, runs with little or no friction, very little noise, can be run with either side to the wheel or in either direction equally well.

"Roller Chain is made of steel or best malleable iron, the malleable only being detachable.

"Runs smoothly, is a substitute for leather and rubber belting and cog gear wheels, over which it has many advantages. No lost motion, no slipping, by reason of which a uniform motion is attained, greatly enhancing the working of all machinery.

"Fully ten per cent. of power is lost by the slipping of leather and rubber belts, and the friction resulting therefrom rapidly generates heat, which hardens the face of the one and rots the fabric of the other, and is one of the most prevalent causes of fire in mills, warehouses, etc.

"Frequently space is of great importance. Roller Chain of from 2 to 4 inches in width is the equivalent of a 12 to 30 inch leather or rubber belt, and the sprocket wheels for the chain will cost from one-fourth to one-half less than pulleys for leather or rubber belting. Chain elevators can be driven from the bottom."

The manufacturers have issued an interesting catalogue containing numerous illustrations of their belting and its applications, which they will send to parties who apply for it.

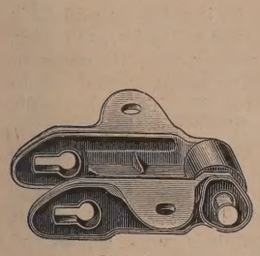


Fig. 2.

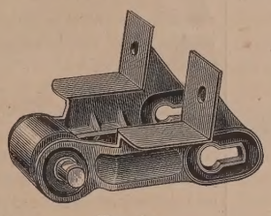


Fig. 3.

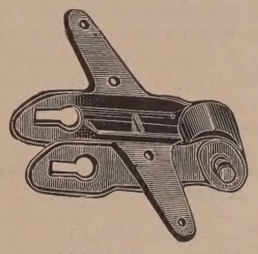


Fig. 4.

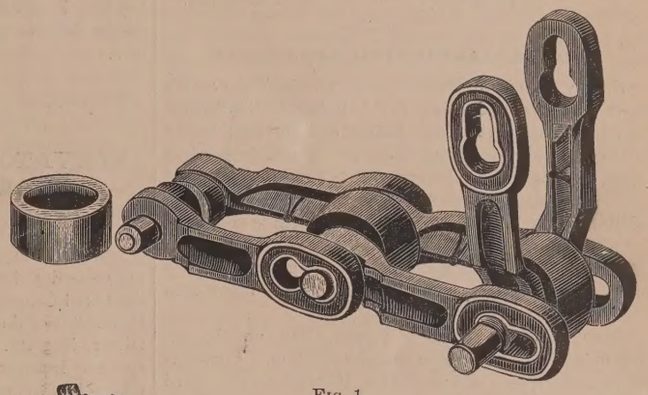


Fig. 1.

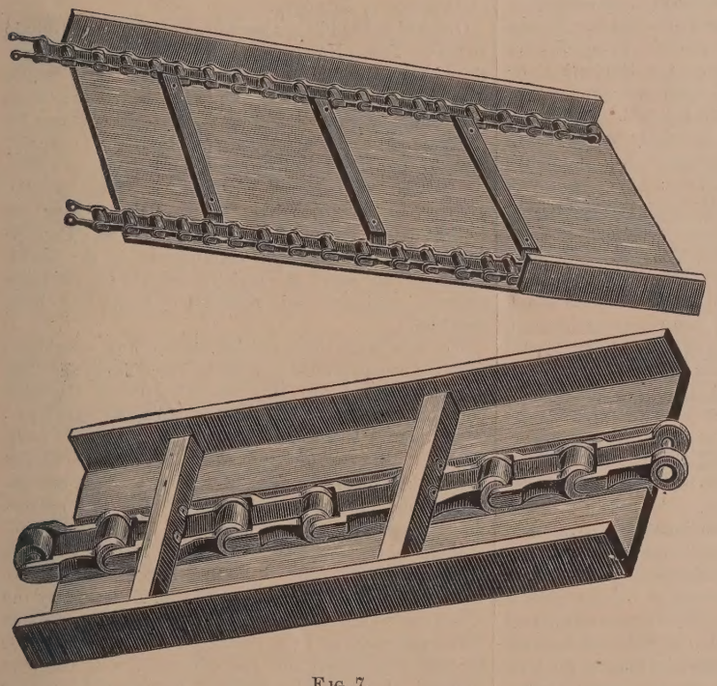


Fig. 7.



Fig. 5.

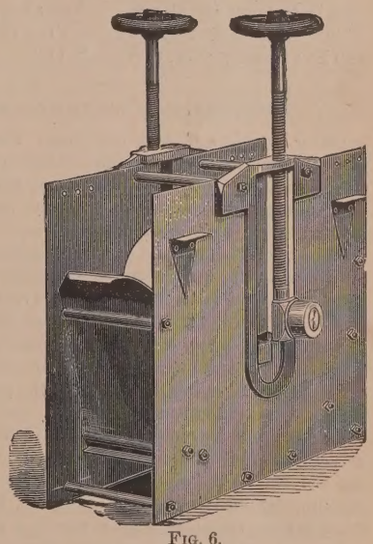


Fig. 6.

ANTI-FRICTION ROLLER DETACHABLE CHAIN BELTING, AND SOME OF ITS APPLICATIONS.

INDIAN WHEAT EXPORTS.

In the face of unfriendly legislation on the part of European governments as to our wheat exports, the interest in our main competing countries increases. It is stated that in India a line of road has been projected from Belaspoor to Katni, which will be of the greatest importance as a grain carrier, which has already been commenced by the state. The line passes through a valuable coal and iron region, and taps the great grain-producing section of the central provinces, where cereals are said to glut the market, while 1,000,000 acres of rich wheat lands are waiting cultivation. At the same time this, so-called, Chhatisghur country, has a surplus of 250,000 tons of grain for export. These facts do not confirm the idea that the Indian competition is merely temporary. The rise and increase of its wheat traffic has been steady. In 1879–80 only some 4,400,000 bushels were exported; this rose to about 40,000,000 in 1881–2, and fell the following year to 28,500,000, but in 1883–4 rose again to 42,000,000 bushels. During seven months of last year the exports of Indian wheat amounted to 20,000,000 bushels. These are about equally divided between England and the other European markets; but during 1884 the traffic with France did not fall at all in proportion to that with England.

In the last fiscal year exports of breadstuffs to Germany were 8,742,012 bushels, valued at $6,070,291. Of this amount, wheat and wheat flour were equal to 1,039,375 bushels, valued at $1,070,657; rye, 3,474,154 bushels, valued at $2,383,038, and corn, 4,228,483 bushels, valued at $2,581,756.

Wheat can be grown on the line of the Canada Pacific Railroad, it is said, at a cost of 31 cents a bushel. The cost of transportation to Liverpool is 33 cents more.

A good deal of corn for the past month or two has been bought and shipped to Eastern and Southern interior points entirely independent of Chicago or St. Louis markets.

The Vandalia Road reports an exceptionally heavy demand for cars for corn shipment. These cars are wanted for Eastern shipment, and the West is also calling for a large amount.

The Howe Scales have all the latest improvements. It is true economy to buy the best. Borden, Selleck & Co., agents, Chicago, Ill.

COMMUNICATED

WHO WERE THE ARCHITECTS?

Editor American Elevator and Grain Trade;—You mentioned in your last issue that a new elevator of 1,000,000 bushels capacity had just been started at Port William, Canada, built and owned by the Canadian Pacific Railway Co. Will you please inform us in your next number who was the architect of this building, and also who furnished the plans for the elevator at Port Arthur, owned by the same company, and oblige

Yours truly, A SUBSCRIBER.

FIRE EXTINGUISHING APPARATUS.

Editor American Elevator and Grain Trade:—We have just finished flooring the building of the Sechler Carriage Works with iron beams, and corrugating the arches. Old rails were used for beams, sixteen feet span, making an excellent as well as a cheap job. We have also completed the fire protection of the "Kokosing Mills," at Mt. Vernon, Ohio. The system is complete, with chemical tank, automatic alarm, non-freezing chemicals and automatics. Part of the piping is in the open air, and recently underwent 25 degrees below zero with no ill effects.

The "Manhattan Mills," at Toledo, Ohio, are also being finished with the same complete system. Contracts have been closed with the New Portage Straw Board Works, and with the works of De Bus & Hansen, Cincinnati, Ohio, for complete equipments of automatics, chemicals, tanks and alarms. Yours truly,

THE RUTHENBURG AUTOMATIC FIRE EXTINGUISHING AND ENGINEERING CO., Cincinnati, Ohio.

OUR INLAND WATERWAYS.

Editor American Elevator and Grain Trade:—I have just read your excellent journal, devoted to the two great correlated and peculiar branches of our country's industries, for the first time, and gather very valuable information even from the advertisements. If the old, abominable feudal policies of the past ages are at length overthrown by human instrumentalities, advancing under the banners of a true Christian civilization, it will banish famine from the human race and lighten all the Eastern hemisphere with beams of the world's afternoon sun. But not by cannon balls, bombs, bayonets, or implements of war can this be done; the practical material forces must be those of peace.

Prominent in the ranks of these is the American navigation of the high seas. While railways and elevators are and should be widely extended, the amazing and alarming decline in our ocean shipping, in the face of the general development and advance of the industrial arts is not realized by the people as it should be; herein lies much of our present difficulty and danger. This can only be partially explained; after making all due allowance for ordinary forms of human error there still remains a deep mystery overhanging the terrible decline of our ocean navigation and maritime power, as it does also that of the Mississippi Basin, in the lack of the completion of a suitable connection of the river with the great American lakes.

One of the physical wonders of our planet is the admirable providential arrangements of nature for American navigation, and in our history there is nothing more astonishing than its neglect and betrayal; for it has been betrayed by treachery and incapacity, and is so still. As to the Hennepin Canal, I have been informed by reliable authority that it is impracticable, owing to the insufficiency of Rock River to furnish an adequate supply of water. But even if practicable, it ought not to be thrust forward until the Illinois and Michigan Canal enlargement is completed, and a suitable connection made between the Mississippi and the lakes, through our great coal fields, via the Illinois River, and rivers cleared of their snags and rendered safe for navigation.

One who, as a boy of sixteen to eighteen, has carried thousands of heavy sacks of grain on his back into and out of warehouses, can appreciate your cut and description of the splendid elevator "D" at Duluth, Minn., in your January issue—quite different are those noble structures at the western terminus of our inland seas from the notable fortress at the western terminus of the Mediterranean. And one who has, when twenty-one years of age, made a march of 2,500 miles with ox teams through a wilderness, an expedition eight times the distance of Sherman's march from Atlanta to the sea, surpassing it greatly in danger, hardships and difficulty, should be able to appreciate the advantages of railways.

So, too, one who has shipped grain to Chicago when the largest elevator only held 150,000 bushels, and corn to New Orleans when one bushel was sold at a price that less than eight pounds paid its freight from the Illinois River; and has also hauled corn in wagons sixteen miles and sold it at this station for twelve cents per bushel, when it was worth sixty in New York, may be said to have taken some degrees in American Commerce, Transportation and Agriculture. Such have been my hard, personal experiences in the "rudiments." As to the last two, I refer those interested to my essay in Vol. XI. of the Reports of the Illinois Department of Agriculture.

Yours truly, W. T. STACKPOLE.

Fairbury, Ill.

ELEVATOR CHARGES AT NEW YORK AND BUFFALO.

[From the Albany *Daily Times.*]

It was by the very close vote of 59 to 54 in the Assembly yesterday that Mr. Sherman's Elevator bill, which the Canal Committee reported adversely, was sent to the Committee of the Whole for open discussion. Messrs. Oliver, Hagerty, Hardin, and Roesch were effective speakers in favor of removing what the Hepburn Committee, in 1879, called a barnacle upon the commerce of the state. We hope the bill will not fail. It aims as honest a blow at extortion and monopoly as ever was struck. It is at the same time moderate and equitable. The bill is short, and reads as follows:

The maximum charge for elevating, receiving, weighing, and discharging grain by means of floating and stationary elevators and warehouses in this state shall not exceed the following rates, viz.: First. For elevating, receiving, weighing, and discharging grain, one-half of one cent a bushel. Second. In the process of handling grain by means of elevators, the vessel or canalboat shall only be required to pay the actual costs of trimming when loading, and for shoveling or trimming to the leg of the elevator when unloading.

Any person or persons violating the provisions of this act shall, upon conviction thereof, be adjudged guilty of a misdemeanor, and be punished by a fine of not less than $250 and costs thereof.

A person may sue for said penalty any person or persons violating the provisions of this act in any court having jurisdiction, and on recovery of the aforesaid penalty the same shall be paid to the treasurer of the county in which said recovery is had, for the benefit of said county.

Any person injured by the violation of the provisions of this act may sue for and recover any damages he may sustain against any person or persons violating said provisions.

This act shall not apply to any village, town, or city having less than 130,000 inhabitants.

This act shall take effect immediately.

A similar bill introduced in the Senate by Mr. Coggeshall was reported favorably by the Committee on Canals, and recommitted for further consideration.

Legislation to regulate the charges of the elevators is by no means a new proposition. A bill was introduced by Senator Hardenbergh in 1870 to provide for the ownership of the elevators by the state, the same as the General Government owns and manages the postal system, and the same as some governments own and control the telegraphs, railroads, and other public works. The elevators were rightly regarded as public servants, and it being plain that their owners were not managing their trust for the public good it was proposed to pay them for their investment and conduct the elevators as a part of the canal system. Committees of the Legislature in 1875 and 1879 investigated the complaints against the elevators and found them sustained by the facts. (See Senate documents 89, 1875, and the Hepburn Committee report, 1879.) The Auditor of the Canal Department in 1880 reported in favor of breaking up the elevator pool by legislative enactment. In the next year the Hurd Committee, which took the matter into consideration, reported that the elevator charges were exorbitant and tended to turn commerce from the state. Gov. Cornell recommended in one of his messages that the charges should be reduced, and Superintendents Dutcher and Shanahan both recommended in their reports that the termiual charges by the elevators be limited to reasonable rates. Now a bill is presented in the legislature designed to correct the injustice of the elevator pool and to retain the grain traffic on the Erie Canal. It is favored chiefly by boatmen, comparatively poor men, mostly, who make a livelihood by hard work, and to whom the exaction of charges over a reasonable profit is downright robbery.

As proof that the boatmen are not coining money, we may take a canalboat with 8,000 bushels of grain received at Buffalo. The boatman pays there for towing, $5; for trimming, $10; scalper's commission, $13; insurance, $8, or $46 in all. From Albany to New York he pays for towing, $28; at New York, elevator (not for elevating, which is paid by the owner of the grain, but for trimming out), $40. He has an average shortage to account for to the amount of $10. His wharfage is $1 and his towing back to Albany is $15. Total, $140. He gets (at 3¼ cents a bushel) $260 for his thirty days' trip, leaving $120 to pay his expenses for mules, men, wear and tear, and insurance, and he may live upon what is left. The great grain owners or shippers are not interested in the bill, for it matters little to them whether the grain goes by the canal or the St. Lawrence, by the railroads, or whether the boatmen are overtaxed or not. The farmers of this state are interested in the bill, though they are scarcely aware of it, for it makes a considerable difference in their sales of horses, and mules, and fodder, whether the canal is prosperous or not. Thousands of workingmen who labor upon the canals, or who help to handle the grain at Buffalo and New York, are deeply interested in securing a reduction in the elevator charges, and increased shipments. The moneyed interests are not pushing the bill. There is no lobby engaged in securing its passage, although there have been boatmen who have given their time to it and worked like mules on the towpath, exciting with their rough clothes and speech almost as much derision as Miss Flite and the man from Shropshire in the Chancery Court, in the case of Jarndyce vs. Jarndyce.

Opposed to the bill are the elevater interests of Buffalo and New York. No poor men in rough coats and flannel shirts, but men with millions behind them—men whose great establishments stand like toll-gates over the canals that cannot be avoided, and who charge the boatman for the same service three or four times the honest cost, and three or four times what he would have to pay at a British port, on the other side of the lake. These people, perhaps, are not employing a lobby. Perhaps they are content to take their luck, whatever it may be. Perhaps they will let their excessive earnings rest in the banks and make no effort to employ "counsel to watch their interests," and save their revenue, it would be so business-like.

We have in previous articles shown how exorbitant were the canal elevator charges in New York and Buffalo as compared with those in Chicago and Canadian ports, and we have shown how the Canadian canal system is offering superior advantages to American grain shippers. In brief, the Buffalo charges are now almost double the Chicago charges, and the New York charges are two and a third times as much. The bill reduces the charges to the Chicago standard. Regarding the advantages of the Canadian route, it may be briefly said, on the authority of a trustworthy Buffalo boatman, that two boats loaded at Chicago, with grain for Europe, may run side by side until they get to Lake Erie. Then one boat will break cargo at Port Colborne (if it does not pass through the canal), and the other will break cargo at Buffalo. One pays $2 a thousand bushels and the other pays $5.75. By the time one cargo gets to Rochester the other will be at Montreal ready for the European steamer, and by the time the New York cargo is at New York City the Canadian cargo is at Liverpool. But, it is asked, is the grain really being diverted to Canadian ports as it was said it would be? We will give the figures, which make a more powerful argument than any words we can write. In the United States Treasurer's report of commerce and navigation for 1881, it is shown that the exports of wheat from New York in that year were 57,000,000 bushels. The crops have increased since then, but the report for 1884 shows that the exports from New York had fallen to 20,445,000 bushels. The shipments of wheat upon the canals of New York in 1880 were 32,240,000 bushels. In 1883 they were 19,120,000 bushels, and had recovered in 1884 to 26,346,000 bushels. These figures tell the whole story, and it would be better for the state to buy the elevators and run them as a part of the canals than let the old system go on until the elevators have sucked out every drop of life and prosperity from the state's great waterway.

Over 200,000 Howe Scales have been sold, and the demand is increasing continually. Borden, Selleck & Co., agents, Chicago, Ill.

LEGAL NOTES.

Custom—Transportation Charges.

Atchison & N. R. Co. vs. Miller—Supreme Court of Nebraska—November, 1884.

1. LIMITATION OF ACTIONS—STATUTE MUST BE PLEADED.

The statute of limitations, as a defense to an action, must be pleaded, or it will be considered as waived by the defendant.

2. RAILROADS—RULES CONCERNING TRANSPORTATION.

A rule or custom adopted by a railroad company concerning its contracts with its patrons for the transportation of grain, cannot operate upon those of its patrons who have no knowledge of the existence of such rule, and such persons will not be legally bound thereby.

3. SAME—CONTRACTS FOR TRANSPORTATION.

When a carrier offers to carry the goods of a shipper for a certain price per carload, and the shipper accepts such offer and ships the goods thereunder, the carrier is bound thereby, and cannot be heard to say he will not abide by its terms; and if a greater sum is retained by the carrier, upon sale of the goods, it will be required to respond to the shipper for such excess.

4. ACTION OF CONTRACT—ALLEGED ILLEGALITY MUST BE PLEADED.

If, in an action upon a contract, fair and legal upon its face, it is claimed by the defendant that the contract is void as being illegal and against public policy; such illegality must be pleaded, or it will be disregarded by the court in which such action is pending.

Error from Richardson county.

Marquette & Deweese, for plaintiff. Frank Martin, for defendant.

Reese, J. The allegations of the petition of the defendant in error, filed in the district court, were, in substance, that the defendant (plaintiff in error) was a common carrier, and engaged in carrying freights, etc., from Falls City, Neb., to Atchison, Kan., and various other points; that the plaintiff (defendant in error), with one George L. Moore, was engaged in the business of buying and selling grain at Falls City, and shipping the same over the road and in the cars of plaintiff in error during the years 1877 and 1878, and that on the fifteenth day of March, 1877, the plaintiff and defendant entered into a contract by which it was agreed that the plaintiff in error was to carry the corn of the defendant in error in carload lots from Falls City, Neb., to Atchison, Kan., at the rate of $22 per carload of 24,000 pounds or less; that, in pursuance of this contract, Miller & Moore shipped over the road of plaintiff in error, to Atchison, 175 carloads of corn, and that plaintiff in error collected and retained out of the proceeds of the corn so shipped the sum of $25 per carload, and agreed to pay the said Miller & Moore the difference between the amount agreed upon and the amount so retained, but had failed so to do upon demand; that the firm of Miller & Moore was dissolved in the year 1878, and this claim transferred to Miller, the plaintiff below. To this petition a general demurrer was filed by plaintiff in error, which was overruled by the district court, whereupon plaintiff in error answered, admitting the corporate existence of defendant, but denying all other allegations of the petition. A trial was had, which resulted in a verdict and judgment in favor of the plaintiff below. The plaintiff in error now brings the cause into this court by proceedings in error.

The proof taken upon the trial shows that on the eighteenth day of March, 1877, the general freight agent of plaintiff in error wrote and sent by mail to the firm of Miller & Moore the following letter:

"ATCHISON, KAN., March 18, 1877.

"Miller & Moore, Falls City, Neb.—GENTS: I have instructed our agent to charge $22 for 24,000 or less of corn on all of our business, Falls City to Atchison.

"Yours truly, J. E. UTT."

Miller & Moore then began shipping corn under this agreement, the freight bills being made out accordingly. Shortly afterward, the defendant in error was in the office of plaintiff in error at Falls City, and in looking over the books of plaintiff in error he discovered that a higher rate was being charged for the transportation, this higher rate being the tariff rate of the railroad company. He inquired of the agent the cause of this, and was informed by him that the bills had been returned to him corrected so as to conform to the higher rate, and that he had "telegraphed down and wanted to know how it was his bills were sent back corrected at regular rates," and that Utt had informed him (the agent) "it was all right, and Miller & Moore could draw the difference in rebate—in the form of rebate." Miller & Moore continued to ship corn until about 120 carloads were shipped, when the firm of Miller & Moore was dissolved. Upon demand by Miller for the amount due him from plaintiff in error, payment was refused, whereupon he commenced this suit for its recovery.

The first question presented by plaintiff in error in its brief is that a part of the shipments were made more than four years prior to the commencement of the action, and that the claim, to that extent, if any ever existed, was barred by the statute of limitations. This question cannot be considered here, for the reason that no issue of this character is raised by the pleadings. "The benefit of the statute, like any other personal privilege, may be waived, and will be unless pleaded." Taylor vs. Courtnay, 15 Neb. 196; S. C. 16 N. W. Rep. 842; Maxw. Pl. & Pr. (1883), 79.

It is claimed by plaintiff in error that the district court erred in refusing to instruct the jury that, under the evidence in the case, the contract, if any existed, would expire at the end of the year in which it was made. The plaintiff in error introduced testimony on the trial tending to show that it was a rule or custom of the company that all contracts like the one involved in this case terminated with the year in which they were entered into. This was shown by other shippers who had like contracts, and by the officers and agents of the company; but no proof was offered which in any degree tended to show that defendant in error or Moore had any knowledge of such custom. But, on the contrary, it was affirmatively shown by him, not only that he had no such knowledge, but that his claim had been recognized by plaintiff in error as a valid claim, and he had been assured by its officers and agents that it would be paid. If such a custom existed it could not be claimed to bind those who had no knowledge of it, nor could it be held to bind any one if waived by the party making the rule. The court did not err in refusing the instruction.

It is next claimed by plaintiff in error that the letter introduced in evidence did not amount to a contract. Standing alone it is evident it does not; yet, when taken in connection with the other facts in the case, it is equally clear that the letter forms a part of a contract which existed as soon as accepted and performed by defendant in error. Briefly stated, it amounts to this: Plaintiff in error, by its duly authorized agent, says to defendant in error: "You can ship over our road for $22 per car, and I have so instructed our agent at your station." The defendant in error enters upon the performance of the offered contract, and so notifies plaintiff in error. When he suggests that the contract is being violated by higher charges, he is informed that "it is all right," and he can draw the difference in the "form of a rebate," and the performance of the contract is continued by both parties. It was, perhaps, terminable at the option of either party, but neither one saw proper to terminate it. It must not be forgotten that the contract was executed by both of the parties to it, and this action was brought for the purpose of recovering that which was due defendant in error by virtue of his fulfillment of it, and that which was wrongfully withheld by plaintiff in error. The cases cited by plaintiff in error were actions for damages for the nonfulfillment of contracts to furnish or transport property; but had these contracts been executed we apprehend the holding would have been different. The next point presented by plaintiff in error is that if the theory of defendant in error is true, then the contract was against public policy and is void. This question is not presented by the issues in the case. It is well settled that the illegality of a contract, if relied upon as a defense, must be pleaded. Barnett vs. Glossop, 3 Dowl. 625; S. C. 1 Bing. N. C. 633; Dickson vs. Burk, 6 Ark. 412; Stannard vs. McCarty, 1 Morris (Iowa) 124; Huston vs. Williams, 3 Blackf. 170; Suit vs. Woodhall, 116 Mass. 547; Cummins vs. Barkalow, 4 Keyes (N. Y.) 514; S. C. 1 Abb. App. Dec. 479; U. S. vs. Sawyer, 1 Gall. C. C. 87; Chambers vs. Games, 2 Greene (Iowa) 320; 1 Chit. Pl. 276; 2 Chit. Pl. 503, 507.

The judgment of the district court is affirmed.

Crop reports from all the agricultural counties of California are to the following effect: In the Sacramento Valley grain is in good condition, and showers within a fortnight will make an abundant harvest. The same may be said of the bay and coast counties. The grain in the San Joaquin valley is suffering from lack of moisture. In some localities it is likely to prove a partial failure, even if rain comes within a few days. In the extreme southern counties the prospect is good, and the usual March showers will insure a full crop. The acreage equals that of last year.

ITEMS FROM ABROAD

Australia will probably ship a fair quantity of wheat this season, the freights being particularly low.

Austria and Hungary have decided to follow Germany's example in raising the duties on foreign grain, and bills increasing the duties on cereals have been introduced in the Austrian and Hungarian Chambers. These bills, however, mainly affect the articles imported from Germany and France.

A man names George Rogerson met his death by accidental suffocation at Fleetwood, England, recently. He was a carpenter, and was engaged, together with three others, in driving iron bolts into one of the bins at the grain elevator of the Lancashire & Yorkshire Railway Co. He was working inside the bin, standing on the wheat, which was being run off into a room below, and while in this position was gradually drawn into the pipe and suffocated.

The German Consul at Stockholm, Sweden, reports as follows: "Buyers here complain that agriculturists do not pay sufficient attention to the good quality of their seed corn to insure salable produce, and also that they do not deliver it properly cleaned or finished. Agricultural societies, assisted by the Government, have established chemical and agricultural stations, and provided corn-cleaning machinery, without effecting any visible improvements.

England continues very bearish on wheat. A late letter says: "From all we can gather the shipments (of wheat) from India seem likely to be 40,000@50,000 tons per month (say 1,500,000 bushels per month), and it is said that probaby half of this may go to the Continent. If prices were to advance we think they could do even more than this. We think parties in the trade must keep their eyes particularly on this part of the world (India). The importation of flour continues enormous, and this, of course, interferes materially with the wheat trade."

The Department of State has received a dispatch from the Hon. J. A. Kasson, American Minister at Berlin, stating that the new German tariff on agricultural products has passed, to take effect immediately. Under this law the following duties will be collected, viz.: Upon wheat, 3 marks; rye, 3 marks; buckwheat, 1 mark, and barley, 1 mark for 100 kilos. Under the provisions of the treaty between the United States and Prussia this country will be entitled to export rye to Germany under the most favored nation clause of the treaty at the old rate of 1 mark per hundred kilograms, until June 30, 1887. Americans desiring to ship rye to Germany at the old rate of duty will be required to produce certificates of its American origin from the German Consul at the port of export.

Manitoba is very modest as to her future capabilities. Major Bell, of the Bell Farm, belonging to the Qu'Appelle River Farming Co., said recently, in an interview with the representative of an English paper: "We shall not send you this year more than 3,000,000 or 4,000,000 bushels; but then you must remember that two years ago there was not a house within 200 or 300 miles of us, and in five years more we shall be sending you 15,000,000 or 20,000,000 bushels. The wheat trade of the world is inevitably falling into our hands. Twenty years ago the Eastern states, from New York to Illinois, were exporting wheat; to-day they are importing it, and in another twenty years the Western states, which are now exporting, will be our customers too. That is so far good for the English farmers, no doubt, but by that time we shall be able to serve you all, and you will be no better off We have no iron, and we shall not see other industries encroaching on agriculture as is the case in the States. No, wheat is our specialty, and we shall come, in time, to supplying the world."

The English grain dealers seem to be more anxious to get hold of American oats than American wheat. Present bids for oats are 9 cents higher than last fall.

In consequence of the low prices for wheat in England and on the Continent during the season of 1884, India wheat shipments have shrunk 17½ per cent. at Bombay and Kurrachee, while at Calcutta it has not been one-third of what it was in 1883.

ELEVATOR AND GRAIN NEWS

A 60,000 bushel elevator is to be built at Berthoud, Col.

A 100,000-bushel elevator is to be built at Northwood, Iowa.

Loveland, Col., will shortly have a 40,000 bushel elevator.

J. H. Ellis has sold his elevator at Weston, Iowa, to F. R. Davis.

Smith & Lake, grain brokers, New York City, have dissolved.

The linseed oil mill at Mankato, Minn., has shut down for repairs.

A. B. Tredway has removed from Nora Springs, Iowa, to Minneapolis.

Brinston, Hill & Co. succeed Brinston & Hill, grain dealers, Ottawa, Kan.

Trompen, Liesveld & Co., grain dealers, Hickman, Neb., have dissolved.

The Denton Mill and Elevator Co., of Denton, Tex., are building an elevator.

Farmers around Zumbrota, Minn., are storing their wheat for a rise in price.

A $50,000 mill and elevator is being built at Dallas, Tex., by A. J. Rouch & Co.

Thomas H. Roberts, of Guide Rock, Neb., is contemplating building an elevator.

Funk Bros., grain dealers, Hillsboro, Kan., have dissolved. C. B. Funk continues.

Copeland & Harrison succeed W. M Copeland in the grain business at Oxford, Kan.

Churchill, Davidson & Co., grain dealers, St. Louis, Mo., have dissolved partnership.

Cadle & Bowsher, of Princeton, Mo., are closing out their grain business at that place.

F. H. Tyler & Co., succeed Fish & Tyler, grain commission merchants of Brooklyn, N. Y.

S. P. Barton & Co., grain and lumber dealers, of Vincennes, Ind., have dissolved partnership.

John Cartmell, grain commission merchant, Uniontown, Ky., have sold out to Young & Taylor.

It is reported that Haliday & Phillips, of Cairo, Ill., will build a grain elevator at Memphis, Tenn.

E. S. Horey, of Parkersburg, Iowa, has purchased a corn sheller of Chas. Kaestner & Co., of this city.

During the month of January 92,000 bushels of wheat were received at the five elevators at Litchfield, Ill.

J. L. Way & Co. of Sparta, Wis., intend to rebuild their elevator at that place recently destroyed by fire.

The new grain inspection law at Minneapolis, Minn., will abolish the offices of city weigher and inspector.

Campbell & Lang, grain dealers, of Stockton, Cal., have dissolved. C. A. Campbell continues the business.

It is rumored that the Northern Pacific Railroad is about to erect a large elevator in its yard in Minneapolis, Minn.

Kempter's elevator at Alma, Minn., is full of wheat. He is remodeling his machine warehouse for wheat storage.

J. F. Randall & Co., wholesale flour and grain dealers, of Portland, Me., have dissolved, and are succeeded by Simonton & Randall.

McHenry & Balding, grain and provision commission merchants, of this city, have dissolved, and are succeeded by T. E. Balding & Co.

It is reported that between 4,000,000 and 5,000,000 bushels will be added to the elevator capacity of Minneapolis, Minn., before next crop.

J. F. Harkness, of Waverly, Dak., recently ordered of Chas. Kaestner & Co., Chicago, Ill., a 16-inch portable mill and horse power and jack.

Ground has been broken in South Minneapolis, Minn., for the erection of the largest elevator in that state. It will have a capacity of 1,500,000 bushels.

Eikenberry & Co. of Chariton, Iowa, have contracted with Borden, Selleck & Co. of Chicago, Ill., for a system of Harrison Conveyors for their elevator.

Chas. Kaestner & Co., of this city, recently furnished W. S. Broughton, of Clay Center, Kan, with a 16 inch portable mill, and other elevator machinery.

A grain and seed firm in Iowa have just supplied six of their Dakota houses with the large Special Flax cleaners, manufactured by Dickey & Pease, Racine, Wis.

Borden, Selleck & Co., of this city, have lately received a contract from the Marsh Co., of Gypsum, Ohio, for a system of Harrison Conveyors in their plaster mills.

W. F. Meader & Co. propose to build a half million-bushel elevator at Minneapolis, Minn., in case the grain trading agitation in the Minnesota Legislature results in nothing hostile to the elevator interest. They also contemplate building five other elevators in the country of 25,000 to 35,000 bushels capacity.

H. W. Pratt & Co. intend to build a 400,000-bushel elevator at Minneapolis, Minn. They also purpose erecting a 30,000-bushel elevator at Appleton, Minn., and one of the same capacity at Webster, Dak.

The Commissioner of Statistics of Minnesota states that the proportion of the corn crop grown in the state still on hand is 30 per cent., and the proportion of wheat 43 per cent. The crop is better than usual, averaging 57 pounds to the bushel.

A bill has been passed by the Minnesota legislature to the effect that warehousemen shall not be held responsible for grain heating by natural causes, provided due care is exercised, and that winter storage shall begin Nov. 15 and end May 15.

One of the largest barley and malt firms of Suspension Bridge, N. Y., have recently removed from one of their large warehouses an old style of separator and replaced it with one of the new patent Giant Dustless Grain Separators, manufactured by Dickey & Pease, Racine, Wis.

The Memphis Grain Elevator and Manufacturing Co. has been organized at Memphis, Tenn., with a capital stock of $65,000. John K. Speed, W. J. Chase, Louis Hanauer, Napoleon Hill, J. C. Neely and Robert Galloway are the incorporators. They will probably erect a grain elevator.

The most extensive linseed oil mill in this country is said to be located at Amsterdam, N. Y. It uses sixteen presses, run by power equal to 275 horses, and runs night and day the year round without stoppages. Nearly 1,000,000 bushels of flax-seed are consumed annually by the mill, and tens of thousands of barrels of oil are produced yearly, while from 10,000 to 12,000 tons of oil seed cake are annually exported for consumption in England.

The Minnesota Warehouse & Elevator Co. have filed articles of incorporation The capital stock is $300,000, and the incorporators are L. S. Van Vliet, of Lake City; Albert Scheffer, St. Paul; C. A. Hubbard, Lake City; Jesse McIntyre and L. K. Simmons, Red Wing, and Ansel Oppenheim, St. Paul, The formation of this company marks the partial ending of a long series of steps which have been taken to indemnify the creditors of the old Minnesota Elevator Company, now in the hands of an assignee.

Chas. Kaestner & Co., of Chicago, Ill., have, during the past month, furnished portable mills to the following parties: D. W. Dillingham, Lyons, N. Y., one 20-inch; M. J. Walsh & Co., Muscotah, Iowa, one 20-inch; H. L. Foster & Co., Stillwater, Minn., one 20-inch; Thomson & Taylor, Chicago, Ill., one 20-inch; Webster & Comstock Mfg. Co., Chicago, Ill., one 30-inch; G. Teske, Madison, Neb., one 16-inch; F. A. Parmenter, Buffalo, N. Y., one 24-inch; C. H. Turner, Suspension Bridge, N. Y., one 24-inch; Williams, Tanner & Co., Fort Plain, N. Y., one 16-inch; W. T. Hays, Rutan, Pa., one 16-inch; Minnesota Farmer Co., Minneapolis, Minn., one 20-inch; E. D. Mayo, Minneapolis, Minn., one 20-inch; O. J. Crumbaker, Lexington, Ill., one 16-inch; Becker & Tangemann, Talmadge, Neb., one 16-inch; W. H. Reed, Vinton, Iowa, one 20-inch; A. Van Sicklen & Co., Chicago, Ill., one 24-inch; De Smith & Mueller, Charles City, Iowa, one 24-inch.

The firm of Martin A. Burbank & Co. at Somerville, Mass., and of the American Co-operative Dairymen's Association, of Bostou, both consisting of the same parties, viz., Osmer W. Roper, H. W. Colson and J. W. Harris, who have recently been arrested for swindling, during the investigations have been shown to have swindled during the last three years the farmers of New England, New York and the West, to the amount of nearly $1,000,000. Their method was to flood the country with circulars, offering high prices for produce, issued under a name differing but slightly from some reputable house. They rapidly disposed of consignments, but made no returns, and when settlements were pressed changed the firm name; so that their aliases are almost innumerable. They have been frequently before the courts, but have thus far escaped conviction; but the accumulated evidence promises now a different result.

On Feb. 27 the Merchants Exchange, of St. Louis, Mo, was startled by the failure of two of the most substantial of its firms, Mr. B. W. Lewis and E. M. Samuel & Sons. The immediate cause was the sudden decline in May wheat from 87½ to 85 cents. The surmise as to the liabilities of Mr. Lewis was of some $50,000, and the opinion was prevalent that the failure would be temporary. Three deeds of transfer of real estate by the latter and his wife were filed in the recorder's office the same day, respectively being $16,000, $30,000 and $20,000 in value. Ben. W. Lewis is president of the Lewis Iron Co., and is considered very wealthy. He has been a speculator on 'Change for several years, and made several hundred thousand dollars on corn in 1883. It was thought that he would pay dollar for dollar. E. M. Samuel & Sons are heavy dealers and had the reputation on the Exchange of being perfectly sound and reliable. The heaviest creditors met as soon as the failure was known, comprising large houses such as Fraley, Carter & Co.; to the latter it is said that the Samuels owed for about 500,000 bushels of wheat. These gentlemen refrained from selling and endeavored to avert a general break up. At a meeting in the evening it was decided by the city creditors, finding that the Samuels were long on wheat, to allow one cent per bushel in the settlement, or 85¼ in lieu of 84¼ cents per bushel; the country creditors had not been heard from. The firm of E. M. Samuel & Sons was established sometime in the '40s; it consists of Web. M. and Ed. E. Samuel. The former was at one time elected president of the Exchange without opposition. The present liabilities were not fully known, but were estimated at about $100,000.

On Feb. 14 it was rumored on 'Change that Chas. W. Weed, the cashier of Milmine, Bodman & Co., the well-known commission merchants at 143 La Salle street, this city, had absconded with $500. Later it was learned that Weed on the previous afternoon had received a check from a customer for $25 and had raised it to $25,000, which he drew in currency of large denominations from the Bank of Montreal. His non-appearance at the office at the above date led to his being inquired for at his house, where it was learned from his wife that he had disappeared, where and why she did not know. The check matter was soon discovered, but no further clue to a solution On Feb. 18 Mr. E. C. Bodman stated that he had just received a letter from Weed, and that the money was refunded. The cashier said that he had committed the crime when drunk, and had left at once for Toronto, Ont. After becoming sober he was conscience stricken, and at once refunded the money. At last accounts he was still in Canada waiting an adjudication of his case.

THE NEW EAST-BOUND FREIGHT TARIFF.

In accordance with instructions from Commissioner Fink ordering a reduction in rates to the 20-cent basis, Joint-Agent T. C. Moore has issued the following new tariff for the various roads running East from this city, taking effect March 10:

Rates from Chicago to—	Grain, flour, feed, bran, middlings, meal, oilcake, oil-meal and cotton seed cake and meal in car-loads per 100 lbs.	Cured meats, can'd meats, beef, pork, lard, pigs' feet, tripe, bacon, and hams in pks, per 100 lbs.	Bulk meats, car-loads, per 100 lbs.
New York	20	25	30
Boston	25	30	35
Philadelphia	18	23	28
Baltimore and Washington	17	22	27
Albany, Troy and Schenectady	20	24	28
Buffalo			
Pittsburg and Allegheny			
Bellaire, O			
Wheeling, W. Va			
Suspension Bridge	12½	15	17½
Salamanca			
Black Rock			
Dunkirk			
Erie			
Toronto			

Special attention is called to the fact that all other articles in eighth class will remain on the basis of 25 cents per 100 pounds, Chicago to New York, and all other articles in seventh class will remain on the basis of 80 cents per 100 pounds, Chicago to New York. No change in the live-hog rate is authorized.

HIS USUAL ADVICE.

There was another Cincinnati riot the other day. A young man who had lost about $10,000 on a wheat speculation went for a broker with:

"See here, didn't you say that wheat was as low as it could go?"

"Oh, yes."

"And that it was a good time to buy?"

"Certainly."

"And that you'd advise any one desirous of speculating to invest in wheat?"

"I believe that was my advice."

"Well, sir, I bought wheat on your advice and am $10,000 out of pocket, as you know."

"Exactly."

"But what are you going to do about it?" howled the victim.

"The same as I always do," was the placid answer. "I always advise dropping wheat and going into oats!"—*Wall Street News.*

A DAKOTA BOARD OF TRADE.

A member of the Cleveland Board of Trade, who was in Dakota last fall, happened in a town on the line of a railroad which had only one wheat elevator. In conversation with the owner of the elevator, he inquired:

"Who makes the price of wheat here?"

"Our Board of Trade," was the reply.

"So you have a Board of Trade, eh?"

"Well, a good enough one for such a town as this."

"How many members?"

"Only two—myself and clerk. I'm the bear and he's the bull, and between us the market is kept pretty lively."

"But suppose the farmer doesn't want to sell at your figures?"

"That never happens. Being we are the Board of Trade, and own the only elevator, and being as he is head over heels in debt, and must have money, the market may be quoted as steady."—*Wall Street News.*

Canals and Marine.

Vessel agents are feeling rather blue at the prospects before them this spring, fearing very low prices for carrying grain. A few vessels are loading at the elevators now. Four vessels were chartered Thursday. The price offered now for corn is but 2¾ cents and for wheat 3 cents a bushel to Buffalo. Fears are entertained by the vessel men that the price will go still lower, as there are so many vessels here.

The present prospects are that the Marine Insurance Companies will be unable to arrive at any agreement resulting in pooling, and that the rates will be cut as badly on hulls as the lowest of the early winter of 1883. As the insurance year opens on April 1, the cutting will not probably be known till then. One company are said to have bidden 3½ per cent. on first-class hulls, and to have made several contracts at that rate. The Insurance Board recently adopted a 60-cent cargo rate, which is 40 cents lower than that of last year. But this, it is said, has been shaved 10 cents by several contracts made at 50 cents.

The greatest length of Lake Superior is 335 miles; its greatest breadth is 160 miles; mean depth, 688 feet; elevation, 627 feet; area, 82,000 square miles. The greatest length of Lake Michigan is 300 miles; its greatest breadth, 108 miles; mean depth 690 feet; elevation, 506 feet; area, 23,000 square miles. The greatest length of Lake Huron is 200 miles; its greatest breadth, 169 miles; mean depth, 600 feet; elevation, 274 feet; area, 20,000 square miles. The greatest length of Lake Erie is 250 miles; greatest breadth, 80 miles; mean depth, 84 feet; elevation, 555 feet; area, 6,000 square miles. The greatest length of Lake Ontario is 180 miles; its greatest breadth, 65 miles; mean depth, 500 feet; elevation, 261 feet; area, 6,000 square miles. The length of all five is 1,268 miles, covering an area upward of 135,000 square miles.

Representative Guenther, of Wisconsin, who had been given the cold shoulder by the River and Harbor Committee in reference to his demand for an appropriation of $75,000 to the Fox and Wisconsin River improvement, succeeded in foiling this astute body by a shrewd piece of legislative legerdemain. He sent to the clerk fifty amendments to the bill, commencing with an appropriation of $100,000 and gradually coming down to $50,000. On being asked by Chairman Willis what were his intentions as to this array of amendments, he said that he intended to speak to each under the three-minute rule. To which Willis said that it would require six weeks, and kill the bill. Mr. Guenther was sorry for the bill, but was bound to do his best for his improvements. The result was that the committee allowed the $75,000 on condition of the withdrawal of the amendments.

The *Railway Register* of our neighboring rival for the grain trade of the Great Valley, always disgruntled by any measure that seems to point Chicago-wise, finds comfort in the failure of the friends of the Hennepin Canal to obtain any hearing in Congress. This scheme, as our friend says, is supported only by the interests of Iowa, Illinois and the Upper Mississippi, on account of its anticipated effects in lowering the rates of freights. But in contradiction to this view, the railways are carrying grain nearly as cheaply as the waterways, and with far more expedition and less risk. This scheme is pronounced a "job" which the House may, as in the Reagan bill, assent to, but which the conservative branch will continue to veto. The *Register* goes on to speak of the proposed enlargement of the Erie Canal as the natural result of freeing it from tolls, and says that "canals are played out." Their utilization will soon be classed among the legends of the ancient mariners steering their craft on Artemus Ward's "raging canawl." New York may be slow to realize this fact, but her canal is now valuable chiefly for its historic associations.

KNIFING THE CHICAGO GRAIN TRADE.

It was stated in our columns yesterday that an attempt had been made by some of the freight agents to effect a reduction to 20 cents per 100 pounds of grain by rail from Chicago to New York. It was admitted that outside lines are working on the basis of this rate, and some of them at even less; but the desired reduction was nevertheless not made. This is the "old, old story," told with little variation of form, though not always in such official shape in the latter half of every winter. The receipts of grain in Chicago are enormously lessened by the fact that rates from this city are sustained, while they are severely cut all around us. But the whole of the story has seldom been told heretofore, and it is not told now. Even at 20 cents our grain dealers would still labor under a great disadvantage, when parties in Kansas City can ship at 25 cents to New York and have to pay 11¼ cents to ship to Chicago. That means that there would even in such case be a discrimination of six cents against the trade here in freight rates alone, besides the expenses of handling. The buyer in the country can afford to pay so much more for the grain to be shipped around us than for sale here on a basis of shipment Eastward. The consequence is that he does not patronize Chicago as a market for grain, and the money he receives therefor from other sources is very likely to be spent elsewhere.

In some former years a committee of investigation has been appointed, and the matter thoroughly sifted, by about the time that the spring thaw breaks up the evil by opening the channels of water communication with the seaboard. It does not appear that even this little trouble is taken the present winter, the merchants of this city seeming to have settled down into a calm resignation to a policy which is bitterly cut-throat in its results, however placid its ostensible aims. Under the circumstances one may well feel thankful for the semi-official assurance that the evil will probably not continue after this month, as the present pooling arrangement will cease with the arrival of All-Fools' Day. Hence those who are not starved out within the next three weeks may possibly be able to live through the summer in spite of the tender mercies of the railroads.—*The Tribune.*

STOCKS OF CORN.

Last week we offered our readers the result of our investigations in regard to stocks of wheat in the country. We now submit a similar report concerning corn.

To show the comparative production of corn in the different states, we submit the following table, compiled from Department of Agriculture reports for three years:

	1884.	1883.	1882.
Maine	1,062,000	1,062,800	904,400
New Hampshire	1,286,000	1,368,500	870,700
Vermont	1,998,700	1,817,300	1,930,300
Massachusetts	1,941,300	2,089,100	1,237,200
Rhode Island	390,000	414,300	277,900
Connecticut	1,767,700	1,710,000	1,155,800
New York	22,674,300	17,512,700	21,187,500
New Jersey	10,992,032	9,715,100	9,942,800
Pennsylvania	43,466,000	37,857,400	43,518,800
Delaware	3,975,000	3,822,200	3,936,600
Maryland	15,237,000	16,251,200	17,904,700
Virginia	29,480,000	26,868,700	35,904,000
North Carolina	31,499,000	28,692,200	34,260,700
South Carolina	13,3 0,000	11,107,800	16,356,200
Georgia	30,925,000	24,615,900	36,617,500
Florida	2,837,000	3,399,200	3,708,900
Alabama	30,197,000	26,189,300	31,982,500
Mississippi	25,510,000	25,257,100	30,233,600
Louisiana	11,007,000	13,150,600	14,636,400
Texas	60,290,000	63,146,300	63,416,300
Arkansas	32,465,000	30,456,500	34,485,900
Tennessee	65,723,000	64,259,000	75,188,600
West Virginia	11,900,000	14,294,000	14,927,000
Kentucky	71,880,000	78,201,800	75,500,900
Ohio	85,393,000	73,560,000	93,319,200
Michigan	26,042,000	21,412,300	28,581,600
Indiana	104,757,000	95,620,000	107,484,300
Illinois	244,544,000	203,786,500	182,336,900
Wisconsin	26,200,000	23,579,300	32,201,600
Minnesota	23,630,000	15,124,800	21,127,600
Iowa	252,600,000	169,629,000	175,487,600
Missouri	197,850 000	161,655,000	170,037,000
Kansas	168,500,000	172,800,900	144,452,600
Nebraska	122,100,000	101,278,900	82,478,200
California	4,800,000	2,464,800	2,790,900
Oregon	164,000	129,300	130,000
Nevada	21,000	21,100	18,000
Colorado	710,000	532,100	422,400
Dakota	13,950,000	4 915,055	4,650,000
Utah	292,000	280,100	275,000
Washington	105,000	61,400	62,000
Other Ter	1,067,400	1,027,340	1,085,000
Total, bushels	1,795,528,432	1,551,066,895	1,617 025,100

The following shows a comparison for different divisions of the country, in bushels:

	1884.	1883.
Western States	1,251,596,000	1,038,446,700
Increase	213 149.300	
Southern States	433,270,000	425,869,600
Increase	7,400,400	
Middle States	81,107,332	68,907,400
Increase	12,199,932	
New England States	8,445,700	8,412,000
Increase	33,700	
Other States and Territories	21,109,400	9,431,195
Increase	11,678,205	
Total crop	1,795,528,432	1,551,066,895
Increase	244,461,537	

The following shows the acreage, average yield per acre in bushels, and average farm value of corn:

	Acreage.	Yield.	Price.
1884	69,683,780	25.6	35.8
1883	68,:01,889	22.7	41.8
1882	65,669,546	24.6	48.5
1881	64 262,025	18.6	63.6
1880	62,317,842	27 5	39.5
1879	53,085,450	29.1	37.5

Our investigations as to quantity of corn remaining unmarketed cover the ten states classed as Western, and two of the Southern. The following table, representing millions of bushels, shows the production in these twelve states during the past six years, the 1879 figures indicating the census returns, and for the other years the Department of Agriculture returns:

MILLIONS OF BUSHELS.

	1884.	1883.	1882.	1881.	1880.	1879.
Ohio	85	74	83	80	120	112
Indiana	105	96	108	80	99	115
Illinois	244	204	182	177	240	326
Iowa	253	170	176	173	260	275
Missouri	198	102	170	93	160	203
Kansas	168	173	144	76	106	106
Nebraska	122	101	82	59	60	65
Minnesota	24	15	21	16	16	15
Wisconsin	26	23	32	29	34	34
Michigan	26	21	29	25	35	32
Kentucky	72	78	76	52	86	73
Tennessee	66	64	75	36	62	63
12 States	1,389	1,181	1,188	896	1,278	1,419
All others	406	370	429	298	439	335
Total	1,795	1,551	1,617	1,194	1,717	1,754

The twelve states embraced in our investigations represent 77½ per cent. of the corn production of 1884, and the indicated proportion of the crop remaining on hand on March 1 is 40 per cent., or a total of 556,000,000 bushels of the 1,389,000,000 bushels produced. Estimating all other portions of the country as having 35 per cent. of their production on hand, or 142,000,000 bushels of the 406,000,000 bushels grown, the indicated aggregate for the entire country is 698,000,000 bushels, or nearly 39 per cent. of the total crop of 1,795,000,000 bushels.

The following table will show the proportion of the corn crop on hand, and the total quantity, for each of the twelve states:

	Per cent.	Bushels.
Ohio	36	30,600,000
Indiana	42	44,100,000
Illinois	44	107,400,000
Iowa	41	103,700,000
Missouri	35	69,300,000
Kansas	45	75,600,000
Nebraska	43	52,400,000
Minnesota	33	7,900,000
Wisconsin	50	13,0 0,000
Michigan	38	9,900,000
Kentucky	31	22,300,000
Tennessee	30	19 800,000
Twelve States	40	556,000,000
Other States and Territories	35	142,000,000
Total	39	698,000,000

According to Depariment of Agriculture estimates for March 1,, 1884, there was 33 per cent. of the 1883 crop on hand, or 512,224,000 bushels, and at corresponding date in 1883 the stocks were 36.3 per cent. of the 1882 crop, or 587,466,000 bushels. Our estimates indicate present stocks of corn to be 186,000.000 bushels in excess of corresponding time in 1884, and 111,000,000 bushels in excess of 1883. These calculations are exclusive of the small proportion of the crop represented in the reports of visible supply.

The exports of corn represent a small proportion of the annual production, and compare as follows, the exports being for years ended June 30, in bushels:

	Crop.	Exp'rt'd.	Per cent.
1883-84	1,551,066,895	46,258,606	2.98
1882-83	1,617,025,100	41,655,658	2.57
1881-82	1,194,916,000	44,340,683	3.71
1880-81	1,717,434,543	93,648,147	5.45
1879-80	1,754,861,535	99,572,329	5.67

In the above the census returns are adopted for the crop of 1879.

The exports during a period of five years ended June 30, 1884, including corn meal, averaged 65,095,000 bushels per annum, and 4.07 per cent. of the production.

The annual consumption of corn for manufacture of liquor is something less than 2 per cent. of the production; this, added to exports, equals about 6 per cent. of the production, leaving 94 per cent. for feeding to animals, food purposes, seeding, and other uses.

For the five years ending with the crop of 1883, the average annual production of corn was 1,567,000.000 bushels—deducting the exports, leaves 1,500,000,000 bushels per annum for domestic uses.

Consumption of corn began on the present crop to an unusual extent before it was fairly mature, in the West, owing to exhaustion of supplies of previous growth, so that the large crop will not afford the relative excess over current wants of the year which its comparative proportions would suggest. The exports for the year will not exceed the average indicated for recent years.

Since the above was put in type, a telegraphic synopsis has appeared indicating the March report of the Department of Agriculture, on stocks of wheat and corn in the hands of farmers. These figures and the *Price Current's* calculations compare as follows:

	Price Current.	Dep. of Ag.
Stocks of wheat	162,000,000	169,000,000
Stocks of corn	698,000,000	675,000,000

In wheat, the Department's report shows 7,000,000 bushels the larger quantity, or nearly 33 per cent. of the crop, the *Price Current's* figures indicating about 31⅝ per cent. The comparison for corn shows a variation of 23,000.000 bushels, the *Price Current's* figures indicating nearly 39 per cent. of the crop, while the Department's returns make the proportion 37½ per cent., the variation in the two estimates being 1⅜ per cent. on wheat and 1½ per cent. on corn—which is not a wide difference.—*Cincinnati Price Current.*

THE AMERICAN ELEVATOR AND GRAIN TRADE.

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ADVERTISING.

This paper has a large circulation among the elevator men and grain dealers of the country, and is the best medium in the United States for reaching this trade. Advertising rates made known upon application.

CORRESPONDENCE.

We solicit correspondence upon all topics of interest connected with the handling of grain or cognate subjects.

THE HENNEPIN CANAL.

The Congress of the United States brought its session to a close on March 4, and it was an ignominious close of an ignominious Congress. Like its predecessors for the past dozen years, it accomplished nothing. It did not even make political capital, which every Congress is supposed to do, whether it does anything else or not. It passed a few good bills, and some bad ones; but ts chief sins were sins of omission. There are any number of important questions that seek solution at the hands of our Congress, but Congress is too busy with something else.

The Hennepin Canal project was one that was sinned against by the last Congress. If that august body had confined itself to legislation no one could complain because this or that item failed of passage. But the House of Representatives has of late years occupied itself almost entirely as a body for disbursing the public funds, and on this ground the Hennepin Canal should have received some consideration. But it was thrown out of the appropriation bill, and the bill itself killed. Congressmen still see the Hennepin Canal through a glass, darkly. And the glass is inverted and empty, too. There is too much *glass* legislation at Washington for anything that is meritorious to stand a show. But the Hennepin Canal will go through all the same. It may take time, but it will go through yet.

IMMENSE!

Amidst the ever increasing pressure in our great grain competing markets to increase the facilities, shorten the time and cheapen the art of transportation, there is large room for the inventors of flying machines, perpetual motions, etc., and they are not slow in pressing forward. Among those on which endless floods of printer's ink has been spent in elaborating a pamphlet of thirty pages of small print, is the "Inverted Railway" of Mr. J. S. Baldwin, of Newark, N. J., which promises to convey grain at the rate of 60 cents per ton per thousand miles, which is a millennium of promise to shippers.

The *Railway Age* thus elucidates this wonderful scheme: There is to be a permanent road foundation in lieu of ballast adjustment, a covered shed, continuous the whole length of the road, for thousands of miles; in place of running gear attached to each vehicle, stationary wheels, no less than 5,400 to the mile, will be used, a double line being supposed. The rails are attached to the vehicles instead of the road bed, and stationary power will be applied in lieu of locomotives. Each vehicle will be a trough 3,000 or even 6,000 feet in length, 50 inches broad, and 60 deep. These "handy" cars are to convey the grain in a continuous stream at the rate of four miles per hour; in spite of length they will be able to turn on a curve of 400 feet radius, as each trough rests on a keel consisting of a bar of steel an inch wide and 4½ inches deep, while the bottom and sides are made of corrugated steel, the corrugations being at right angles to the keel, which in passing a curve will open and close like a bellows. The emptying of this monster car is to be effected by the twisting of the trough through a half or three-quarters revolution while running; the curious inventor considering that such a twist on so long an axis will be imperceptibly gradual. The grain falls down through the open framework, is scattered over 100 feet, falling into long troughs with conveyors to carry the grain to any distance required.

THE MINNESOTA GRAIN AND WARE HOUSE BILLS.

The law-makers of Minnesota developed more wisdom than we gave them credit for. We admit that when the shower of bills to regulate this, that and the other thing were introduced we expected a choice specimen of granger legislation to be the result; but instead, two bills have carried which certainly are conservative in their tone and scope. The grain bill has brought down anathemas on the heads of the legislators from the grangers because the legislature did not go to extravagant lengths. It was expected that, the granger element predominating, the bill to regulate elevators would be a radical one, but it seems that some who came to St. Paul with blood in their eye had the gore removed as an impediment to vision by learning something of the situation. At all events, some of the bills introduced were so stringent that their adoption would have resulted in throwing the entire grain business into the hands of a few corporations, while their ostensible object was to protect the farmer.

The warehouse bill will probably result in an open market, providing, of course, that it is constitutional, which seems to be doubted in some quarters. If it stands the judicial test the legislature will have done something for its constituents. The truth is that the whole subject was so thoroughly canvassed before the legislature that the blindest partisan of farmers' rights m have seen that the situation had elements of plexity that forbade radical measures.

THE NEBRASKA RAILROAD BILL.

The Legislature of the state of Nebraska has passed a stringent railroad commission bill, which will be at once entered on the statute books of the state and go into operation in ten days after its formal signature. This act creates a commission consisting of the Attorney General of the state and the secretary and auditor of public accounts. These are authorized to each appoint a secretary at an annual salary of $2,000, giving bonds to the amount of $10,000 each. The duties and powers of this commission cover all the points that have appeared in the various proposed bills of different states, and are very full. An annual report is required to be presented to the Governor on or before the first Monday of December, to cover the fiscal year ended June 30. This report is to contain all the important facts as to the extent, management, etc., of all the roads in the state using steam as power, and this is to be the meaning of the term in the bill, while "Railway Companies" include all corporations or individuals who own or manage such roads for the public benefit. The specifications required in the report number nineteen. The duties as to subjects of investigation and authority cover thirty-five specifications, while power for these investigations is given to the commission, equal to that of a court, to demand witnesses and papers and compel the attendance of the companies in cases of complaint, the suggestions of the commission are to be made to the roads. In case of continued disobedience the channels of public prosecution are made subservient, and adequate penalties are attached. It is made the duty of the governor to direct the several district attorneys as to the prosecution of the complaints made by the commission. The act is in no way to interfere with the regular legal proceedings in such cases through the courts according to present laws. The secretaries are empowered to act vice the commissioners in investigations, the final decision resting with that body of whom a majority constitutes a quorum.

FARMERS VERSUS ELEVATOR MEN.

We would not cite the *lex talionis* as a justification of any frauds that elevator men might practice on farmers, but it is nevertheless true that the average elevator man would be obliged to go through a pretty thorough course of training in order to get ahead of the average farmer. In the expressive language of the day he would have to get up early in the morning and have his eye teeth cut, to come out even on a year's dealing with grangers.

The sly thefts that farmers perpetrate on the grain men show a fertility of inventive genius and a lack of moral sense that are the accompanying characteristics of dishonesty. Some farmers have been detected having false bottoms to their wagons, which they would fill with sand. When the grain was weighed and the wagon driven around to discharge its load, the sand or dirt would dexterously be let out, and the re-weighing of the wagon would show that so much grain had been delivered, when, in fact, only that amount *less* the weight of the dirt or sand had actually been received by the elevator.

Every elevator man has had more or less experience with farmers who mix in screenings with their wheat in the middle of bags. Of course this is always done by the hired man or the farmer's thoughtless boys. The farmer himself never does it. The granger does all these things and yet complains of dockage. Enough dirt has been sent to Duluth in wheat this year to make a small island in Lake Superior; and the dirt was not all in the wheat as the result of carelessness either. There are undoubtedly rascally elevator men, but there are also rascally farmers. Some of the best customers for Chicago butterine are farmers who sell the stuff as "pure, farm-made butter." The granger is not always a "lily of the valley," morally.

THE LAST WHEAT CROP.

The New York *Produce Exchange Reporter* of March 7 treats of the erroneous estimates made of the last wheat crop of the world, so persistently repeated that the public cannot be made to believe anything different, mainly for the reason that the prices in this country and England have not been so low for over a century. But the current low freight rates, the low cost of harvesting and increased market facilities have, says that paper, been factors in this reduction of values. When wheat touched 75 cents for prime Genessee some thirty years ago freights were 24 to 28 cents per bushel to Europe, and inland freights were four times their present figures, so that all things considered prices in this country were never so low as in November last, and not so low in England since 1774, as during that month. The *Exchange* repeats its opinion that much of this depression has been due to mistaken estimates made as to the wheat crop here and elsewhere. The public mind seems to the writer to have become diseased in regard to the values of our staples, and nineteen out of twenty have lost all confidence in almost everything, very few articles selling on their merits. This condition was brought about primarily by the failure of the wheat and corn crops of 1883, followed by a decline in railway and other securities, prior to the Wall Street failures of April last, which were followed by a great decline in most securities and all staple products. This loss of confidence has remained as a dead weight, paralyzing the market. But the *Exchange* thinks that it is time that this condition should cease with this unreasonable depression of prices, when the country never before possessed so many elements of wealth, with the balance of trade entirely in our favor.

Editorial Mention.

Ocean freights on grain have been very dull.

St. Louis has had her little storm on the Exchange, resulting in carrying down a couple of strong firms.

Seeding in Dakota before March 1, as has occurred this year, may well be deemed a remarkable occurrence.

Mr. Love, of the firm of Savage & Love, elevator builders, Rockford, Ill., called upon us the past month and reported that business was excellent.

Marine insurance this season will be very low. Insurance men are complaining that for several years there has been no money in marine insurance.

Messrs. Robert McKnight & Sons, Philadelphia, Pa., write us: "We note that you keep up the excellent standard of your journal, and we wish you continued success."

W. Armington, of Natrona, Ill., writes us in renewing his subscription, "Your monthly is a success as a grain journal. Send it another year. Cannot afford to be without it."

Look out for the usual amount of scare over the killing of the wheat and the Hessian fly. There is generally some truth in these bullish rumors, but oftener they are exaggerations.

Thousands of copies of the present issue are sent to parties who are not subscribers. We ask all such to look the paper carefully over, and if the verdict is in our favor to send us a dollar for a year's subscription.

Those who are troubled with scale in their boilers might consult with advantage the advertisement of the Boiler Purger, advertised in this issue, by Mr. H. P. Graves, of No. 343 Virginia street, Milwaukee, Wis.

Messrs. L. J. Cox & Co., of Baltimore, in a business letter, write us: "Your journal is of great value to us, and we shall probably continue our subscription for an indefinite period. You have our best wishes for your success."

D. T. Weed, of Lanark, Ill., manufacturer of the Angle Sieve Separator, writes us that he has received a great many inquiries from his advertisement in this paper. And he is doing a good business, too, for he has an excellent machine.

The Nesmith Grain Register, so long known and so widely used, is presented to our readers in a card by the sole manufactnrer, C. L. Nesmith, of Washington, Ill. The device is warranted to give satisfaction, and is sold at a very reasonable price.

The Illinois House of Representatives have determined to "investigate" Frank Drake, Chief Grain Inspector at Chicago. It is well understood that the investigation is intended for political ends, to gratify the malice of one or two members of the legislature.

W. G. Adams, of Sandwich, Ill., has just issued a neat and very comprehensive illustrated catalogue and price list of grain, warehouse and elevator machinery and supplies made and sold by him. It embraces sixty pages of reading matter and illustrations, covering about everything that is used in an elevator. Mr. Adams will send a copy of this catalogue to grain men who have any requirements in his line, and is satisfied that in prices, promptness and quality of goods he can hardly fail to satisfy. Mr. Adams has built up a large patronage by his enterprise and fair dealing, and this trade is steadily expanding, which is the very suitable "reward of merit" which these qualities bring in the business world.

Messrs. Vandervoort & Tuckrr, 116th Street, East River, New York City, advertise in this issue an Elastic Cement and a Flexible Paint, which may be made very useful on all sorts of buildings, for repairing leaks and for painting outside surfaces exposed to weather.

A Combined Boiler and Engine, which has many points of merit, is advertised on another page by W. C. Johnson, of Oskaloosa, Iowa. Its compact size and moderate price render it suitable for establishments where only a limited power is necessary, as in most warehouses.

The Cambridge Roofing Co., of Cambridge, Ohio, have established headquarters at Omaha, Neb., with Messrs. Summers & Jennings as general agents for the West. All communications addressed to them will receive prompt attention, and the lowest market quotations given.

Dickey & Pease, of Racine, Wis., have been granted a patent on their "Giant" Dustless Grain Separator on the ground of its preliminary separation of the dust from the grain in a manner which they consider superior and more effective than any yet invented. These separators are highly spoken of, and are very cheap in price.

Parties in need of a grain shoveling machine will notice the card of W. D. Rinehart, of Terre Haute, Ind., whose device was fully described in this paper some months ago, and which has been in successful operation for over two years in Chicago and at other points. Mr. Rinehart also handles other elevator machinery and supplies, on which he is prepared to give bottom figures.

We give considerable space in this issue to the agitation over the subject of elevator charges in Buffalo and New York. It has been charged that corrupt methods have been resorted to in order to defeat the bill regulating the charges. While we do not believe very much in the efficiency of laws for controlling private business, it would seem that the charges in New York are extortionate.

It is stated that the Loring-McDonald "Fund W" gang, who control the notorious Public Grain and Stock Exchange in this city, have made arrangements to open a branch bucket-shop in London, Eng. These well-known parties met recently in New York, and made arrangements with the Mackay-Bennett Cable Co. for the transmission of their quotations. They are said to have two experienced agents at work at the London end.

The case of R. H. Godman, grain shipper of Lafayette, Ind., vs. Lake Erie & Western Railway Co., on change of venue has been taken to Clinton county. Mr. Higbee, a heavy grain shipper of Fremont, Ohio, testified that he at one time presented General Freight Agent N. S. Weed with a suit of clothes, and at another time $100 in gold, a barrel of flour, etc., in consideration of freight rates four or five cents below the regular tariff allowed by Weed.

Ex-Gov. Hamilton, of Maryland, is reported to have said recently that his state could have little difficulty in competing with the West when wheat was $1 per bushel; less than that would not pay. He said that a neighbor had rolled and harrowed a wheat field eight times and got a yield of 62 bushels per acre. The result of following this example throughout the state is apparent. But the alternate courses before the producers are, shall the yield be curtailed or the markets extended? We are raising more wheat than we can consume, but if our markets can be developed this trouble would be removed as we can undoubtedly, says the Governor, compete with England, Russia, and other European markets. Corn, he thinks, should be used for feed mainly, and the resulting fertilizers are not in dispute. The best land would be benefited by the use of good fertilizers.

In the communication of W. A. Freemire in our last issue, by an oversight of ours, he was made to say that the Pillsbury & Hulbert Elevator Co. had handled 800,000 bushels of wheat at Minneapolis and Grand Forks. What Mr. Freemire wrote was that 800,000 bushels had been handled at East Grand Forks, Minn., and Grand Forks, Dak.

It was our privilege the early part of the present month to be shown through the extensive establishment of the Barnard & Leas Mfg. Co. at Moline, Ill., a concern whose products are pretty well known all over the country wherever grain is handled or ground. Ever since the enlargement of the old works the company have been running steadily, employing from 70 to 100 men; and a glance through the various departments demonstrated that dull times had not affected the activity of this sterling establishment.

A prominent grain firm at Atchison, Kan., in reply to a circular sent to their correspondents throughout the state have received replies on which they estimate that there was a reduction of fall wheat sowing amounting to 30 per cent. as compared with last year, and that the damage from the Hessian fly, winter killing, etc., will amount to 25 per cent. more; this is a very uniform conclusion. Taking the crop as reported last year at 47,000,000 bushels, this reduction would estimate the growing crop at about 24,675,000 bushels.

A bucket shop case has recently been decided in the court at Peoria, Ill., which decision is viewed by board of trade dealers as a victory. Mr. Bruce Holmes, living in Marshall county, ordered the purchase of 40,000 bushels of corn through a bucket shop firm of this city, to be made by its Peoria branch; on some unfounded pretext the firm did not make the purchase, the profits of which would have been $1,200 in three days. Holmes purchased the grain at the advanced price, and sued the firm for his loss. He claimed that his intention was to make a *bona fide* purchase, that the firm was a mere gambling institution, and entitled to no legal protection. The jury gave a verdict in Holmes' favor.

At the annual meeting of the Manitoba Board of Agriculture recently held at Winnipeg, a resolution was adopted to the effect that on account of the various causes of complaint as to the grain grading and inspection in that province, the Board recommend the appointment of a chief grain inspector to reside at Winnipeg, who shall inspect all the grain brought for shipment outside. The Board also commended to the Dominion Government that the grades of wheat should be called "Manitoba red hard," and Manitoba white wheat, abolishing the term "Northern." The object stated is to prevent the admixture of other hard varieties with the first, especially the white, which would injure the grades in the European markets.

The press of San Francisco indicates that the matter of the shipment of the present California wheat crop via the Southern Pacific has been very considerably mooted of late. There seems to be ample evidence of the capacity of the road to transport almost all, if not the entire crop. This road, which is virtually a part of the Central Pacific through its management, has two outlets, one at Galveston, Tex., via the Gulf, Colorado & Santa Fe Roads, and the other at New Orleans, through the Sunset, Morgan & Texas Pacific Roads. The company's old cars have been mostly displaced by the new 20-ton capacity pattern, and in addition to the above rolling stock, that of the 10,000 miles of the Gould system is

available, if required. There are, besides, the Cromwell and Morgan lines of steamers from New Orleans, and the Mallory line from Galveston, run in connection with these roads; all these furnish outlets to grain from the Pacific coast. It is said that it is not the intention, however, of the S. P. Road to handle the entire crop, but that it will carry the bulk of it is considered a foregone conclusion.

WE clip the following from the *Herald* of Grand Forks, Dak.:

A farmer in East Grand Forks who read P. & H. agent Freemire's letter copied from the Chicago paper, says he can answer the soft wheat part of it squarely. He says last spring he bought from said agent about 150 bushels of seed wheat called No. 1 hard and at the No. 1 hard price of 85 cents. He sowed that wheat separately and marketed the wheat from that seed at P. & H.'s E. G. Forks elevator, said Freemire agent allowing him only No. 1 regular for all sold to him. So this is the way the wheat degenerates from No. 1 hard. THE ELEVATOR AND GRAIN TRADE will do well to make a note of this. The farmer's affidavit can be obtained any time it is needed.

What of that? Grade is grade. The man who sold the seed wheat did not guarantee that under any and all circumstances the product of the seed would be No. 1 hard. In this democratic country wheat like men must stand or fall on its own merit, and not on the merit of ancestry.

THE Common Council of the city of La Crosse, Wis., has under advisement an appeal from the decision of Judge Newman in their suit vs. the Chicago, St. Paul & Milwaukee Railroad Co. for a tax on the use of the company's elevator by a private firm, who ran some 300,000 bushels of grain through the house during the year; the amount claimed was $5,000. There was no evidence that the road made any charge for the use of the elevator except the benefit derived from the increased business thus induced. The Judge decided, on the ground that the city could make no charge on the company in this case for its own use of the elevator, and as there could not be legally a partial or graded tax, the company was not liable for the business done by private parties. It is said that there are several similar suits pending, and the city attorney will consult with the best legal authority as to the advisability of an appeal.

RURAL LOGIC.

The *Northwestern Farmer* of Fargo, Dak., devotes nearly a page to a tirade against the elevator men, in the course of which it says:

When the crop is in the hands of the farmer, it islow in price. The elevator companies don't want it. The markets are glutted with it. But when the crop is transferred from the possession of the farmer, although the visible supply has not decreased; although the markets are just as much "glutted" as they were before, the price is advanced.

"To stimulate deliveries." "Because we want the wheat," are the answers given by the elevator men, when they are asked why they have put up the prices. But if the market is "glutted," why should they want to "stimulate deliveries?" If they "didn't want" the wheat at the low prices, why should they want it now?

You must go deeper for the reason. And while you are on the subject, just think for a moment of being at the mercy of a class of people, no matter whether they are good or bad, who have the power to shove the prices up and pull them down at pleasure. It seems more than likely that the reason for the advance in the price of wheat when the farmer as a rule has unloaded his crop, is as charged, that there is a desire to "stimulate" planting. To encourage the farmer to sow more acres in the spring that the elevator companies may repeat their yearly performance of getting the crop first and raising the price afterward.

If this state of things exists, and the preponderance of testimony is that it does, the thing that the good farmer will do is to get out of the clutches of the men who make the markets to suit themselves and to devise some means of ridding themselves of this old man of the sea, the elevator boss.

If the *Farmer* has any remedy to offer to change the laws of supply and demand by which prices go down when a commodity is plentiful, and go up when it becomes scarce, let us hear it. The farmer who holds his crop certainly gets the benefit of the advanced price. No one is to blame because the Dakota farmer's necessities compel him to sell his crop as soon after harvest as he can. Markets will respond to the supply of a commodity. When all are crazy to sell, prices will go down. The *Farmer* must change human nature before what it complains of can be remedied, or else the farmer must get over the necessity of "sacrificing" his crop. There is a farmer in Indiana who has been saving all his wheat for four years, with the idea that it ought to fetch $2 per bushel. The farmers of Dakota have a perfect right to do the same, and thus bring the "old man of the sea" to terms.

RECENT indications, as obtained from the views of residents at Fargo, are that the Dakota wheat acreage this coming season will on the whole be increased. There will be a considerable area, already old in this culture, that will be fallowed or changed, but the amount of new land turned over it is thought will more than offset it, while there has been also a growing confidence in the improvement of the world's markets before the crop appears. Seeding was noticed as going on freely on Feb. 27. The conditions have been favorable in the light snow falls, warm spring weather and winds. The old wheat is mostly sold and out of farmers' hands. A writer from that section to the *Pioneer Press* says that in spite of a reduction of 25 per cent. of the old wheat acreage a careful examination indicates a decided increase in the Red River Valley as far as Jamestown. The local journals have been active in their endeavors to inspire confidence generally, while the writer thinks that the railway and elevator agitation will eventuate in good.

ALLEGED DISCRIMINATION IN FAVOR OF ELEVATORS.

Mr. J. D. Rhodes, of Little Falls, Dak., in a communication to the *Pioneer Press* of Feb. 19, replies with some asperity to the statements made by Col. Clough, representing the railway interests on the subject of "regulating the railroads by the state," and to Mr. Sawyer, the elevator owner and operator in that section. Many of the charges are as to discrepancies of views or statements in reference to local matters that have little interest outside that point; while others are specific matters that are as facts, denied by the other party, and would certainly require clear proof to give them importance. Mr. Rhodes states that according to Col. Clough, Sawyer had been given the right to build an elevator at some good points on the Duluth & Little Falls Division and the N. P. Railroad Co. compelled him to build at Little Falls, an elevator of 30,000 bushels capacity at an expense of $7,500. The writer skeptically inquires as to these "good points," where Sawyer had built elevators previously, and asserted that at no other point was there as much grain handled as on this division. The compulsory building of an elevator of that capacity where the amount of grain handled did not require it, seems unjust. Mr. Rhodes claims to have handled some 50,000 bushels in three months with a flat warehouse of less than 2,000 bushels capacity, and claims that he could have handled more if required. Mr. Sawyer had built a flat house of 3,000 bushels before he built the large elevator, and had no difficulty in handling all the wheat he could buy. There were then two warehouses insuring competition. But Col. Clough asserts that the flat houses cannot clean the wheat; but, says Rhodes, the Duluth and Minneapolis elevators are supplied with ample cleaning machinery, which, however, he says, Clough stated had taken 1,500 pounds of dirt from every carload of wheat sent from the flat warehouses.

To this Mr. Rhodes replies that while he himself had charge of the Rhodes warehouse, over 100 carloads of wheat were shipped to Minneapolis, where the average dockage for dirt was only three bushels per car. But the fact is, says the writer, this cleaning is not done for the benefit of the farmers but for the elevator operator, who after purchasing the grain raises its grade one or two points, and pockets the margins. Sawyer had thus cleaned, he insinuates, some 190,000 bushels of wheat during the last year, making some $10,000.

If Mr. Sawyer did not buy any grain his cleaning profits would be $50 per day. A special discrimination in favor of Mr. Sawyer, made by the roads, is illustrated by the house at Royalton, in which Mr. Kobe is not protected. This unjust protection of the Sawyer enables him to rule the local market. As an instance, at the time of the opening of this warehouse the same wheat which had been graded before at the elevator as No. 2 regular, bringing only 75 cents on the following day was graded No. 1 hard, and sold for 89 cents per bushel. In reference to the statement of Col. Clough that the freight manager of the N. P. Road had told Rhodes that he could have cars if he would agree to keep his house open the whole year, Rhodes makes simply a denial of the fact.

Relative to the above, both the gentlemen involved were interviewed together and shown a copy of the paper. They thought that the ratio of insinuation was to the facts, as a bushel to a grain. The specific charges were thrown aside as requiring proof; some of the points replied to were as follows: Little Falls was in fact the first point at which Sawyer built, but he mentions several other well-known places on the Division where he has since built elevators; his arrangements with the road management included seven points. Col. Clough, as to the charge in relation to the amount of dirt taken from cars as stated, was an average, and not for every car or lot, and claims that the statement can be corroborated. The almost absolute necessity of wheat cleaning after it comes from farmers' hands has been notably shown in the experience of the grain shipping centers this last year where the remarkable amount of dirt retarded greatly the transportation and handling of the grain, and of course gave rise to endless jarrings as the wheat was in the main excellent, but very dirty. The warehouses are perfectly incompetent to extract this matter, and it taxes the cleaning capacities of the elevators to the utmost. In time, perhaps, the Western farmer will learn that spreading over less land, its cultivation with better methods, and the bringing of clean grain to market will pay better than slip-shod work, everlasting complaining and ferocious granger legislation. The statement as to the willingness of the roads to furnish facilities to the small warehouses, if they will do as the elevators are compelled to do, keep open all the year, the Colonel considers to be a generally well-known fact; and that in the case of Kobe at the Royalton house he knowingly refuses so to do, perhaps making enough without this obligation; but, says the Colonel, there is no discrimination; the same course is open to all. Mr. Sawyer, he says, has always desired that the others should enter into this arrangement, and that the competition at Little Falls and elsewhere should be open.

The latter said that he had repeatedly requested the people of Little Falls to get the road to remove from his elevator their restrictions, and they might line the side track with flat warehouses; but no interest had been manifested. The statement, or rather insinuation, of Rhodes as to the profits on 190,000 bushels of grain handled by his elevator, is contemptuously denied, and the proof challenged. Besides the above house Mr. Sawyer has houses at Swanville, Villard, Westport, Glenwood, Starbuck and Cyrus. They average receipts to the amount of about 100,000 bushels. The prices are fixed at 17 cents below those of Duluth, allowing 12 cents freightage and 2½ cents elevator charges; cleaning, etc., at Duluth, 1½ cents, leaving a margin of profit of 1 cent per bushel.

Fires, Casualties, Etc.

Henry Clay Douglas, grain dealer, of Smyrna, Del. died recently.

Grant & Kenner's grain warehouse at Laredo, Tex. was burned recently.

John P. Chambers, of the firm of Chambers & Co., grain dealers, Peoria, Ill., is dead.

Hunt & Kessinger, grain dealers, of White Hall, Ill., are reported damaged by fire.

John B. Pierce & Son, grain dealers, of North Kingstown, R. I., were burned out recently.

John G. Harris, formerly a member of the grain firm of Comstock & Harris, at Peoria, Ill., died recently at his father's residence, Abingdon, Ill.

Capt. Henry Loury, Vice-President of the St. Louis & Mississippi Valley Transportation Co., a wealthy citizen and well-known river man, died on March 2.

The grain elevator and warehouse of the Terre Haute Elevator Co., at Arcola, Ill., was destroyed by fire on the night of Feb. 26. The building was insured for $1,500, and its contents for $2,300.

The elevator of John Frœhlich & Co., produce buyers at Freidrich Station, Iowa, was destroyed by fire on the night of Feb. 21. The loss on the building was about $5,000; and on contents, $4,000; fully insured.

H. C. Fisher's elevator, at Huntington, Pa., recently collapsed. It contained 30,000 bushels of grain. Three employes, who were in the upper story, escaped by jumping from the window. The damage done amounted to $30,000.

The grist mill and elevator of Banks & Co., at Liberty Mills, near Wabash, Ind., were burned on March 9. The building contained several thousand bushels of wheat and 1,000 barrels of flour. The loss was $20,000; insurance, $10,000.

The boiler of elevator of the R. T. Davis Milling Co., at St. Joseph, Mo., exploded on the morning of March 2. The elevator was wrecked, and the engineer severely injured. There was a terrible concussion, breaking out windows; a workman in the gas works, a quarter of a mile away, was fatally injured by a piece of pipe.

The carrying charges on the present visible supply of wheat will be nearly $1,000,000 a month at summer storage rates, including interest and insurance. This makes the load a very heavy one for the bulls.

NOTES FROM THE EXCHANGES

At the recent annual meeting of the Chicago Chamber of Commerce the following officers were elected: President, Leslie Carter; vice-president, A. O. Slaughter; Directors—George C. Walker, O. K. A. Hutchinson, S. B. Roath, E. O. Hills, D. K. Pearson, John Cameron. President Board of Trade, Secretary Board of Trade, Byron L. Smith, George A. Armour, Charles L. Raymond.

The Central Telegraph News Agency is an organization which proposes to furnish to brokers, commission men, and dealers on 'Change all kinds of information which would be likely to affect the markets. It is organized on the plan of Kiernan's agency in New York and has a number of subscribers among the members of the Board of Trade and Stock Exchange. Recently there have been a number of complaints from small operators who claim that the agency has been sending out sensational reports based upon rumors which had no foundation in fact. A case in point was noted last Thursday, when it was claimed the agency reported a decline in French consols. One or two easily-influenced operators bit at the bait and lost their money in consequence. They then began to "kick," and even went so far as to declare that they would make the agency's methods of securing and delivering information the subject of an investigation by the board.

The *Sanitary News* calls the attention of those interested to the new building of the Chicago Board of Trade, which, though involving most lavish expenditures of money and intended to present a palatial temple for our productive industries, has, as the *News* claims, neglected the very important consideration of fire hazards, and says that "in fifteen minutes the whole interior of that building that ought to be fire-proof, could be almost irredeemably ruined." While the intention was to make the building fire-proof, the writer says that the proper place for this work has been neglected, viz., in the sub-basement among the boilers and engines. There are here highly combustible wooden beams and joists, uncovered, within a few inches of boilers and steam-heated pipes, while gas jets are burning at full head within five inches of the first floor, where only in a small area, directly over some of the boilers, there is lathing and a thin coat of plastering. If, as is probable, the first floor was intended to be fire-proof, the writer claims that it has not been so constructed. It is claimed that the danger of fire in the sub-basement is very great, which might result in the destruction of the offices and call-board room on the first floor, and do immense damage to fresco work, etc., everywhere.

At a recent meeting of the executive committee in charge of the dedication ceremonies of the new Chicago Board of Trade building, A. M. Wright in the chair, the arrangement or sub-committees was perfected as follows: Finance—C. L. Hutchinson, J. C. Black, G. H. Wheeler; Printing, J. C. Hately, A. M. Wright, J. H. Norton, G. T. Smith, G. J. Brine; Banquet, G. H. Wheeler, Alex. Geddes, R. Warren, J. H. Norton, J. C. Black; Evening Entertainment, G. T. Smith, C. L. Hutchinson, W. S. Seaverns, J. H. Dwight, G. J. Brine; Dedication Exercises, A. M. Wright, J. H. Milne, J. C. Hately, H. W. Rogers, C. H. Adams; Music, C, D. Hamill, C. H. Taylor, E. F. Chapin, D. W. Baker, A. E. Clarke; Invitations, G. T. Smith, G. H. Wheeler, C. L. Hutchinson. The invitation committee reported the following guests as invited to attend the dedication: All members of the Board of Trade; the President of the United States and members of his cabinet; Lieutenant-General P. H. Sheridan and staff; Admiral Porter and Staff; General Schofield and staff; United States Senators from Illinois; Cook County Congressmen; resident foreign consuls; heads of government departments resident in Chicago; Governor Oglesby and staff; heads of Illinois state departments; United States, state and county judges; a limited number of city officials; Board of Education; Colonels and staffs of the State militia; presidents, vice-presidents and cashiers of city banks; presidents, vice-presidents and general managers of railroads; editors and publishers of city newspapers; officers of local commercial organizations; park commissioners; officers of the Union Stock Yards; delegates from American Boards of Trade to the number of 130; delegates from foreign Boards of Trade to the number of 40; resident architects and contractors; prominent citizens to the number of 500. The committees on banquet, evening entertainment, and dedicatory exercises were instructed to prepare programmes and submit the same to the executive committee as soon as possible. The meeting then adjourned subject to the call of the chairman.

The Illinois Senate has confirmed Gov. Hamilton's appointment of Frank Drake, of this city, for Chief Grain Inspector.

John McQueen, wheat merchant, running elevators at Middleville, Caledonia, and Dutton, Mich., has suspended after giving chattel mortgages amounting to $3,800, leaving T. D. French & Son, his heaviest creditors, unsecured to the amount of about 6,000 bushels of wheat. They have attached McQueen's property in Barry and Kent counties.

FREE SHIPPING OF WHEAT.

[From the Annual Report of the Railroad Commissioner of Minnesota.]

With more intense feeling than ever before, the people have continued to protest against the rule of the railway companies as to the free shipping of grain, which requires a 30,000-bushel elevator as a condition precedent to a privilege, theirs by every rule of law, and demanded by the highest public policy. That so arbitrary a measure should be enforced by the companies in defiance of the decisions of the courts, and against urgent public interests, is a marvel of unwisdom. It is just such conduct, on the part of railway management, as invokes and necessitates legislation. When the people demand of the law-making power resistance to such a despotic rule, railway men should not deprecate the wrath of the storm.

It is alleged that the farming and shipping interests are demanding a system of inspection as a cure for existing evils.

The complaints made to this office do not sustain such a theory. Such complaints as come to us, officially touching this matter, relate exclusively to the rigid rule above mentioned, which exhibits free shipping, and, as a plain corollary, free buying. The proposed system of inspection might prove a prudential auxiliary to the chief remedy. Let not, therefore, the movement in behalf of a system of inspection, dwarf or obscure the main cause of complaint. Official information will not warrant any such conclusion. Accusations against the companies predicate the evils on the prohibition placed upon free shipping and free buying by the railway companies, thus giving to the great elevators exclusive privileges in the buying and shipping of grain. This is the root of the whole matter, the difficulty in grading is but a sprout which comes from this root of evil. Under the present system the man at the elevator is king, and a system of inspection alone will not dethrone him so long as he holds exclusive shipping privileges. In the days when every merchant in a town was a buyer, and every man who chose had his flat warehouse and received cars to ship, little was heard about the present complicated system of grades. The new expedient of a grand elevator system has gradually banished all the small competitors, and the great elevators are left monarchs of all they survey.

That large elevators are a convenience in the movement of grain no man will deny. That they will be built and operated under an open and free system is amply proved by the experience of all other states.

But when some of the roads declared that no one should have the privilege of shipping but through a 30,000-bushel elevator, they virtually enacted a sumptuary law. The vital principle is, that railways are public highways, constructed for the benefit of the people, of whom each individual has a right to claim equal privileges in the matter of shipping and transportation. There can be no favored parties, as the companies have determined these elevator men shall be. The result of this system of favoritism has been to kill competition and drive out the independent buyer. This, it is continually asserted to this office, is the foundation and essence of the evils complained of. The roads have actually assumed to forbid competition in the purchase and shipping of wheat. No law on earth can control the single elevator man who alone buys and who alone possesses the privilege of shipping from a station. He is a law unto himself. The present system has reduced the number of actual buyers who control the markets of the state to a very limited number. They confer together every day. The telegraph and telephone make their action a unit.

This syndicate of men are practically present at every station, controlling prices and grades. All other competitors have long since disappeared, under the operation of the cast-iron rule. It was the little buyer with his flat warehouse, and the merchant, who were formerly buyers, and who, like the regulator in a watch, adjusted the markets and the grades. Under that free and flexible system grades adjusted themselves, and there were no complaints. The Mississippi River towns, from Hastings to Brownsville, are open and free markets, every one buying who chooses, and every one shipping who desires, and not a complaint has ever come from a single one of those places. The record shows that they have paid the highest average price for grain and with no complaints as to grades. This is a proof of the benefits of commercial freedom, which blows the theories of the railways to atoms.

Under the existing system prices and grades are dictated exclusively by the selfish interests of one party, while the other is not invited or permitted to take part in the transaction. Such things occur in no other business transactions of life. The railway rule has organized this exclusive elevator system into one great monopoly. Where there should be numerous competitors, there are none.

If it be said that the elevators are open and free to all who desire to ship grain, that they are, in fact, public elevators, the reply is, first, that where the parties owning and running them are themselves engaged in the purchase and shipping of grain, they are substantially private grain houses to all intents and purposes. Such are the elevators belonging to the Millers' Association. Nor are there any which are not run exclusively in the interests of those owning or leasing them. Again, if an outside buyer has purchased, and desires to realize by shipping, he is refused cars on one pretext or another till, annoyed and discouraged, he is at last "frozen out," and retires from a contest where further effort is useless. This is the history at numerous stations where we have examined the condition of things. Our law should more specifically declare that elevators shall be public elevators, and prescribe severe penalties for any evasion of their duties as such.

Elevator men should have no rights superior to those of other avocations. They should expect to put their money into the enterprise subject to all sorts of competition, as other men do in other pursuits. The true reformatory measure is to throw the whole business open to free competition and let it regulate itself, like other avocations, on the basis of free trade. Instead of building up a few favored men who at present control the whole business of shipping grain, let all enjoy an equal opportunity of buying and shipping if they may so choose. This constant solicitude for the welfare of the elevator men, while the farmer is shorn and forgotten, looks bad. By rendering the business free to all they will inaugurate a policy which, instead of making a few men wealthy, will add to the wealth of men generally, and so stimulate business for themselves and for the people. The wealth of the railway is the wealth of all its customers. Every man cannot build an elevator which costs from five to ten thousand dollars; he must not, therefore, be prohibited from the shipping of grain in his own way because he is poor. We deny that the elevators, as run, are free to all. The present system exposes the roads to the charge of collusion with the elevator men, and the methods prevailing justify the charge. Every consideration, therefore, of public policy would open the widest privilege to those desiring to ship grain. These are some of the strong practical points which go with the legal ones presented in the commissioner's report for 1882.

In view of all the facts, and the increased hostility of the public against the existing rule of the roads, and as a matter of sound public policy it is again urged that such legislation be had as will compel the companies to perform their duties as common carriers. Our neighbors, Iowa, Wisconsin, and Illinois, have, and enforce, just such a measure as is here respectfully recommended. Indeed, in no state in the Union does such an arbitrary rule prevail as in Minnesota and Dakota.

THE SHIPPERS' NEW YEAR GREETING.

By O. J. Demette, Stenographer for Hunter Bros., St. Louis, Mo.

Ring out ye bells upon the midnight air,
Welcome to joy and farewell unto care,
Bring gladness to us men of Feed and Grain,
And fill our souls with happiness again.
For many months we have not made a cent,
And all our profit has gone up in rent;
On Bran and Shorts we have no margin found,
And wheat and corn are run into the ground.

Come to our aid! Oh Eighteen Eighty-five,
And bring rejoicing to our busy hive;
Increase the value of our Corn and Wheat
That we may live and have enough to eat.
Put up the margins on our Rye and Oats,
Give appetite to horses, cows, and shoats,
That they may need of mill-feed more and more
And fill our coffers as they were of yore.

Oh Eighty-five, on thee we now depend;
From freight discriminations us defend.
Grant that railroads our overcharges pay,
Nor keep us hoping on from day to day.
Let us a place upon the tariff take,
Like to the little village by the lake.
Let old St. Louis not be left to mourn
Like one who of her grandeur has been shorn.

Farewell! A long farewell, old Eighty-four,
God speed thee back to time's mysterious shore.
Thou didst bring with thee only tears and care,
And scattered want and sorrow everywhere.
And though the year which now succeedeth thee
Is wrapped in doubt and much uncertainty,
We fondly hope those joyful midnight chimes
Bring tidings to us all of better times.

WANTED.

A situation by a man thoroughly acquainted with the grain business and fully competent to run an elevator and engine. Has had ten years' experience. Can speak German and English. References furnished. Address John M. Bandle, Box 105, Marion, Ohio.

Special Notices.

The Chicago Scale Co. sell Scales of all kinds also Portable Forges and Blacksmiths' Tools of all descriptions at about one-half usual prices. Buyers will save money by sending for their Price List.

The Cambridge Roofing Co., of Cambridge, Ohio, have their iron roofing and siding on exhibit at the World's Industrial and Cotton Centennial Exposition, New Orleans, La. The roofing and siding are on a building occupied by S. C. Forsayth Machine Co. and marked with their name. The exhibit is in charge of George Crowl and E. F. Gage. Office in building, where prices and terms to agents and consumers can be obtained. Stock kept there for sale.

WANTED TO RENT.

An elevator or grain warehouse at some point where a nice business could be worked up. Illinois or Iowa preferred. Would buy property if the business would warrant it. Address, with particulars,

A. D., care AMERICAN ELEVATOR AND GRAIN TRADE, Chicago, Ill.

ELEVATOR WANTED.

An experienced grain and live stock man is desirous of renting an elevator where a liberal amount of business may be done on a fair basis. Please address

C, care of AMERICAN ELEVATOR AND GRAIN TRADE, Chicago, Ill.

For Sale.

FOR SALE.

Fire, burglar-proof safes; vault doors and shutters; time locks. Second-hand safes cheap. We buy, sell or exchange. Address

MARTIN & Co., General Agents, Davenport, Iowa.

A BARGAIN.

One new Hutchison Dustless Corn Sheller, capacity, from 75 to 100 bushels per hour. Regular price, $125. Will deliver on board cars for $90. Address

ALPHA, care AMERICAN ELEVATOR AND GRAIN TRADE Chicago, Ill.

FOR SALE CHEAP.

Two Johnston Grain Cleaners, capacity 150 bushels per hour. Steel jackets with conical brush. Machines are new, having never been used, and will be sold at a bargain to close out lot. Address

SAVAGE & LOVE, Rockford, Ill.

ELEVATOR FOR SALE.

A very desirable elevator property, thoroughly equipped with machinery, sheller, dumps, scales, etc. in Western Iowa, where the country is full of grain, just ready for market. Full particulars given on application. Address

A. M., care AMERICAN ELEVATOR AND GRAIN TRADE Chicago, Ill.

FOR SALE IN NORTHWESTERN IOWA.

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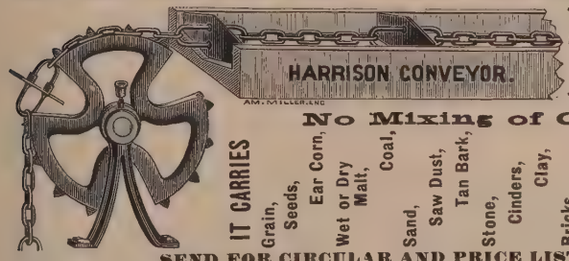
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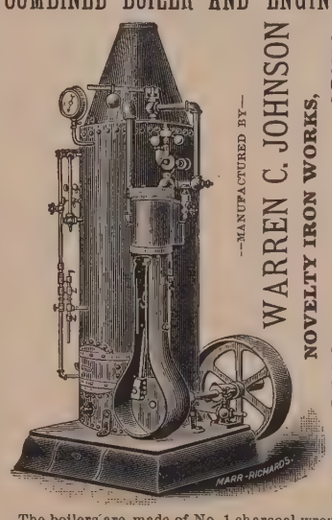


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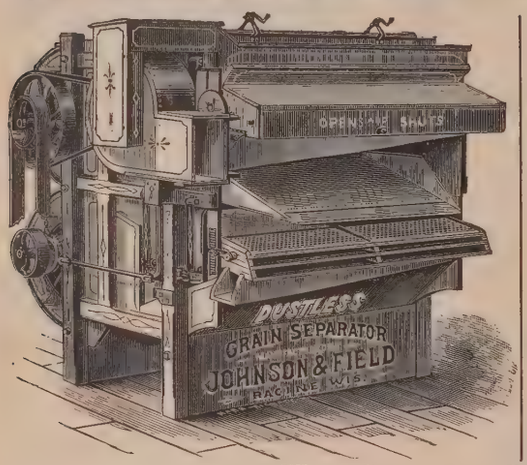


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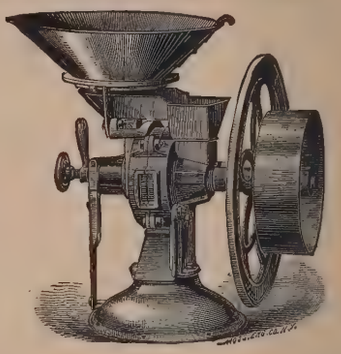
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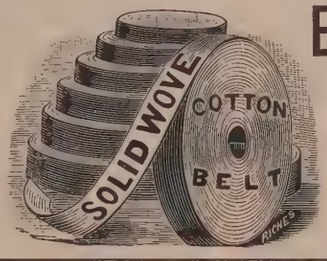
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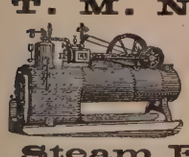
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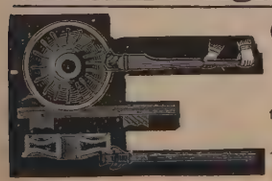
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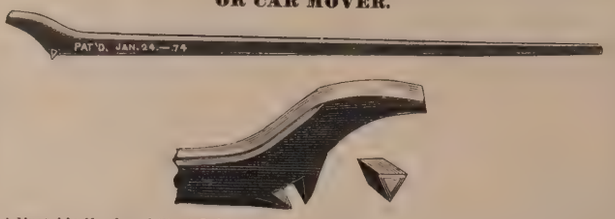
With our experience we can save you on these items more than cost of Plans. Correspond with us and save costly mistakes.

WARRANTED ALL STEEL.

The Champion Pinch Bar

OR CAR MOVER.

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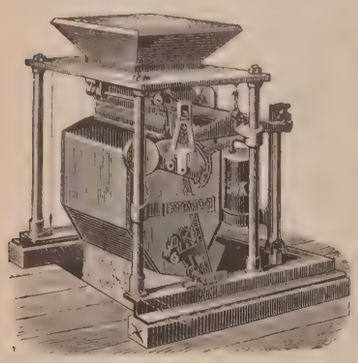
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With Adjustable Hardened Steel Grip, made of superior quality of steel, which can be reversed when one edge is worn smooth, and replaced with a new one when all three are worn off.

Price, $5.00 each, including one extra Grip; price of Grips, 35 cents each, or three for $1.00. Weight, 15 lbs.; length, 5 feet. ☞ We claim for this Bar the following **Advantages**, which will recommend it to all practical users: The entire Bar is made of **Steel**; will work on any style of brake or wheel, and between cars, getting its purchase from the rail to the wheel; it will not slip on ice or grease; one man can easily move any loaded car with it. Address

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GOLD AND SILVER MEDALS IN 1883 AT BOSTON, AMSTERDAM AND RIGA.



— Patent Automatic, Adjustable and Controllable —

Self-Registering Weighing Machine

—FOR—

Wheat, Malt, Grain and Seeds of all Kinds, for Grain Warehouses, Silos, Customs, Flour Mills, Oil Mills, Breweries, Malt Houses, Distilleries, etc.

☞ Great Saving of Labor and Time. ***Automatic,*** and therefore the only ***reliable*** System of Weighing and Recording,

COMPETENT AGENTS WANTED.

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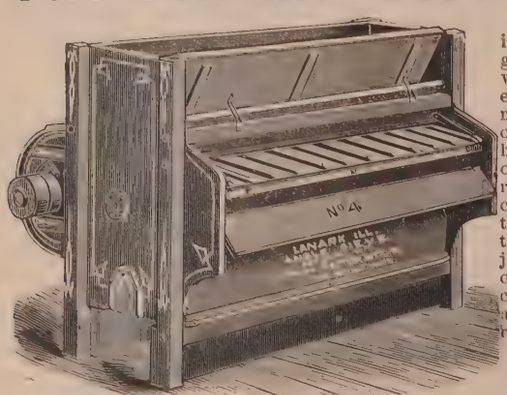
·NEW·YORK·BELTING AND·PACKING·CO.·

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THE ANGLE SIEVE GRAIN SEPARATOR

(D. T. Weed and H. A. Webber's Celebrated Patent.)

The CHAMPION of the WORLD.

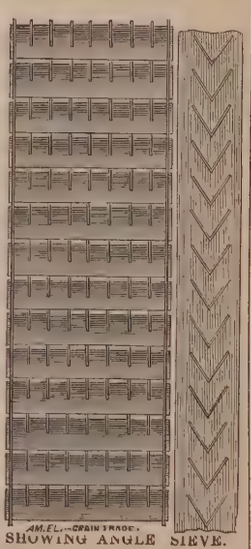


Everybody is astonished to see the work it does. We challenge competition, for general cleaning purposes. WE CAN and WILL separate oats and wheat raised together, *the first time through the Separator*, and make it fit for market, and not run any wheat over in the oats. No other Separator can help running wheat over, where the suction or blast is depended on to make the separation, which we claim is not the correct principle of separation. The peculiar construction of the sieve, and the motion of it, do the work. We can take oats out of barley just as well, though not quite so fast. No other Separator attempts to do this. We can also clean buckwheat, flax, rice or any any other small seeds that any other separator will handle.

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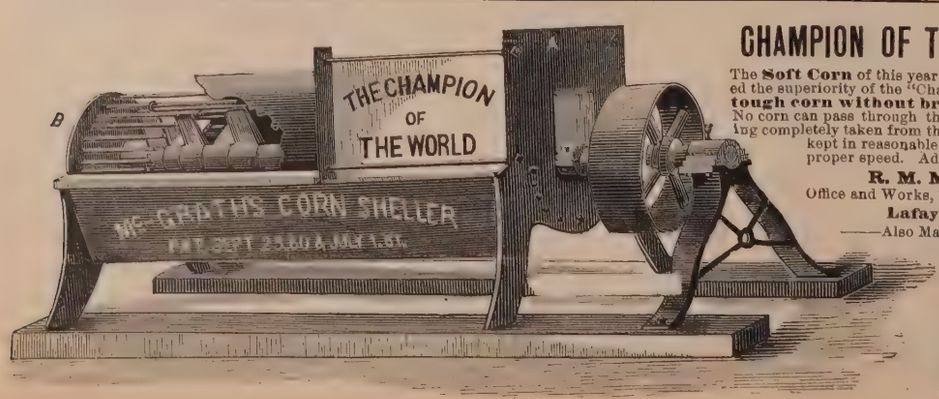
Address the Manufacturer,

D. T. WEED, { ONE OF THE PATENTEES, } **Lanark, Carroll Co., Ill.**



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CHAMPION OF THE WORLD!

The **Soft Corn** of this year has again demonstrated the superiority of the "Champion" in **shelling tough corn without breaking** the **grain.** No corn can pass through this Sheller without being completely taken from the cob, if the machine is kept in reasonable repair, and run at the proper speed. Address

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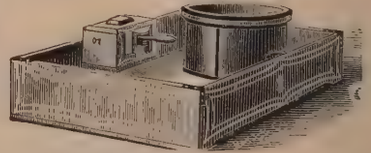
—Also Manufacturer of—

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AND
McGrath's Twin Corn Sheller and Cleaner.

McGrath's Pat. Grain Dump. Also Shafting, Pulleys, Hangers and Warehouse Machinery of every description.

THE OLD RELIABLE

Nesmith Grain Register.



Patented March 3, 1868, and Oct. 7, 1873.

Acknowledged by Threshers and Dealers everywhere to be the best. Every register is warranted to give satisfaction. Retail price, without half-bushel measure $12.00. Shipping weight twenty-five pounds. Liberal terms and discounts to dealers. Manufactured only by **C. L. NESMITH,** (successor to G. W. Nesmith), **Washington, Ill.** Send for circular.



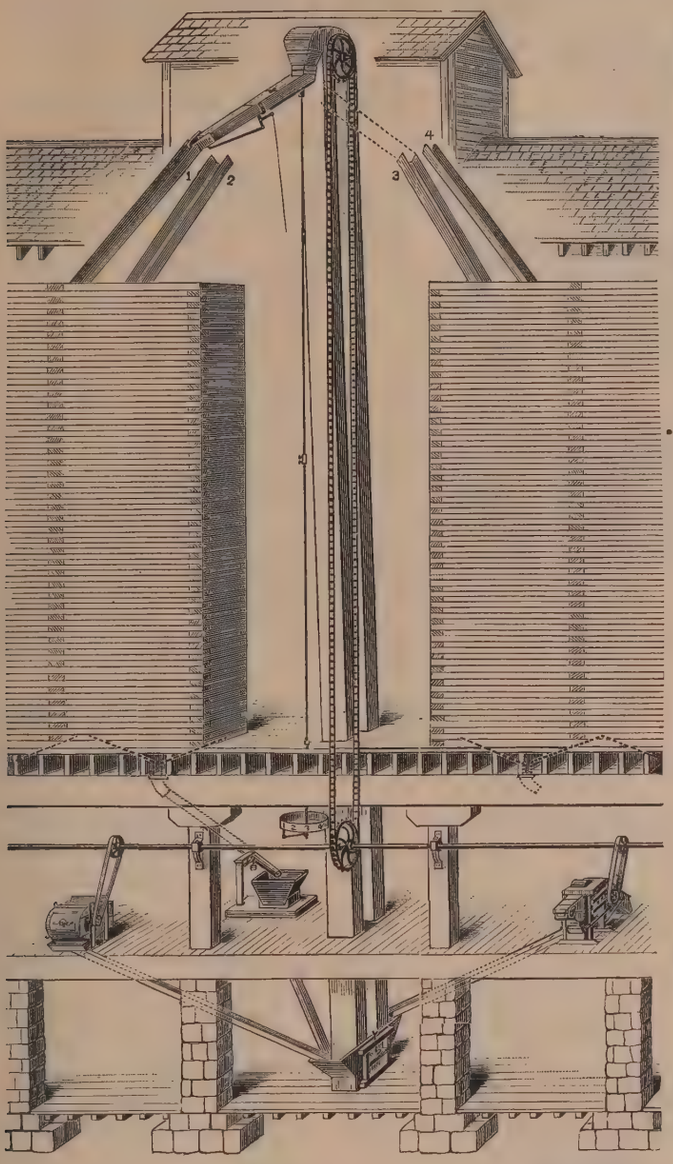
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A VISIBLE FEED LUBRICATOR FOR STEAM ENGINES, PUMPS, AND LOCOMOTIVE AIR BRAKES

BRONZED $6.00 NICKELED $8.00

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ELEVATOR MACHINERY!

And Supplies of Every Description.

☞ I have **Superior Facilities** for the manufacture of ***Shafting*** and ***Pulleys, Hangers, etc.,*** of the latest and most approved patterns. Below are cuts of a few of the Specialties of my manufacture. Believing that I can make it to your advantage to write to me for Special Prices before placing your Orders, I solicit your correspondence.

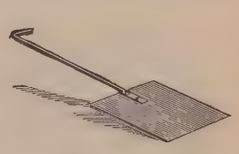
Office and Works, - - SANDWICH, ILL.

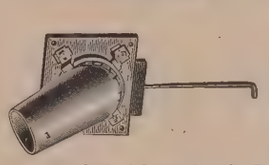


Crane Spout for Head of Elevators,

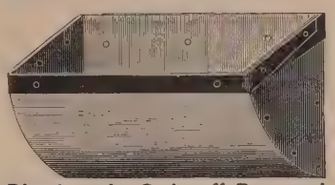


Swivel Spout and Gate No. 1, for Bottom of Hopper Bins.





Swivel Spout No. 2, Top and Bottom View.



Rivet and "Salem" Pressed **BUCKETS.**



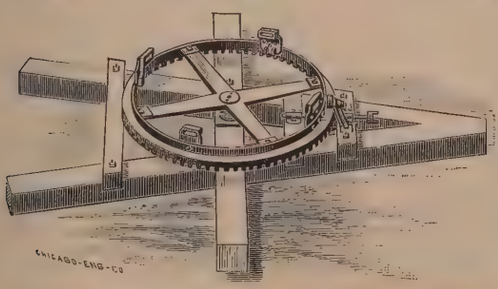
BUCKET BOLTS.



Dump Gate, For Scale and other Grain Hoppers.



Swivel Spout No. 3. Made to fit any Wooden Spout.



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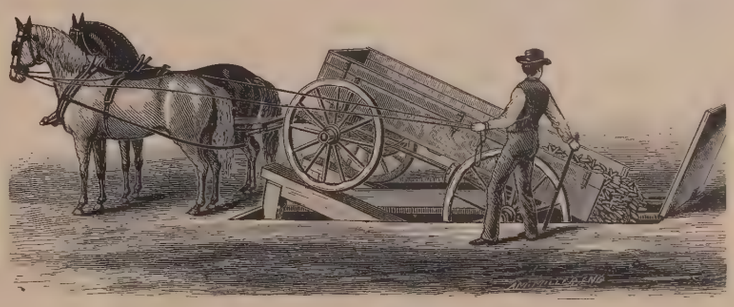
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One, three or four Horses.

Common Rail and Wells

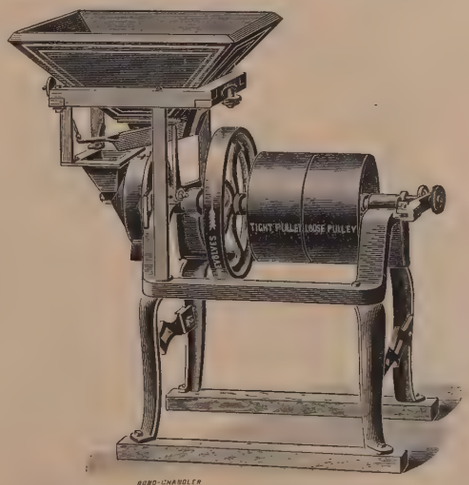
DUMPS

Licensed by J. M. HARPER.



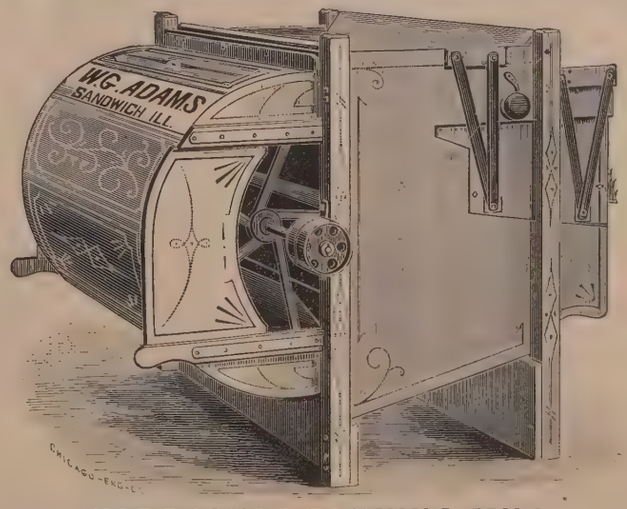


Wood Boots.



ELEVATOR FEED GRINDER.

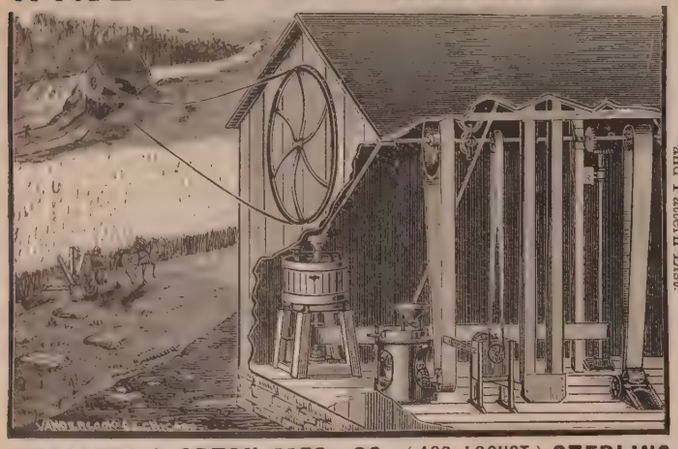
Capacity, 18 to 20 Bushels per Hour.



WAREHOUSE FANNING MILL.

CAPACITY, 800 to 1,000 Bushels Corn or Oats per Hour.

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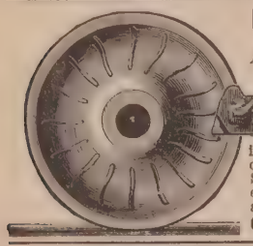


Portable Mills, Pulleys, Shafting, Etc.
Send for Illustrated Treatise on Wire Rope Transmissions, and our General Price and Pattern List.

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IMP. CHICAGO CAR MOVER!

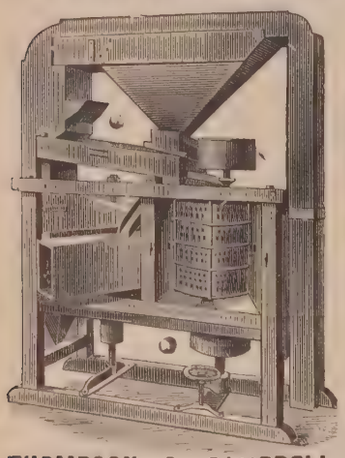
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ALLOWS NO SLIP to our machine, which makes a great IMPROVEMENT. It is now manufactured of Steel or Malleable Iron. Will not break. Light and handy. Cheapest and BEST in the market. To accommodate my numerous customers and save cost of freight, I constantly ke p stock subject to order at Chicago, St. Louis, Kansas City, Minneapolis, Nashville and Buffalo, delivered free. If desired, 30 days' trial allowed. Send for references and prices. Address

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THE TRIMMER GRAIN SCOURER SEPARATOR



Should be in Every Elevator in the Land.

CLEANS AND POLISHES THE GRAIN,

Removing all impurities without breaking or wasting.

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GENTLEMEN:—Yours of the 4th received. In regard to B. T. Trimmer Grain Scouring, Rubbing, Polishing, Separating and Smut Machine; we have used a great many machines, and are using the "Trimmer," and find it a splendid machine, and **know of no better cleaner in the ma ket.** We are so well pleased with the machine that **we will have no other;** we have been using the machine over two years and we recommend it as the **best Grain Scou ing and Polishing Machine we know of.**

Yours respectfully,
[Signed.] D. & A. LUCKENBACH.

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(Successors to KREIDER, CAMPBELL & CO.)

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BOGARDUS ECCENTRIC MILL

——These Mills are Used for——

Grinding all Kinds of Substances

And having been used for a number of years, are well known in the Trade.

Nos. 2 and 5 Mills Grind the Following Dry Substances:

Raw Bones, Burnt Bones, Pot Shells, Ores, Flint Quartz, Enamel, Old Crucibles, Charcoal, Plaster, Fire Clay, Aluminous Clay, Paints, Guano Feed, Corn, Corn and Cob, Tobacco, Snuff, Sugar, Starch, Salts, Woods, Stems, Berries, Seeds, Leaves, Roots, Coffee, Spices, Mustard, Cocoanut, Cocoa, Oil Cake, Gums, Tomatoes, Fish, Leather, India Rubber, Mica, Asbestos, Cork, Horn, Celluloid, Beef Fibrine, Confectioner's Sugar Chemical Salts, Johnson's Fluid Beef, Felhsen Safety Blasting Powder, etc.

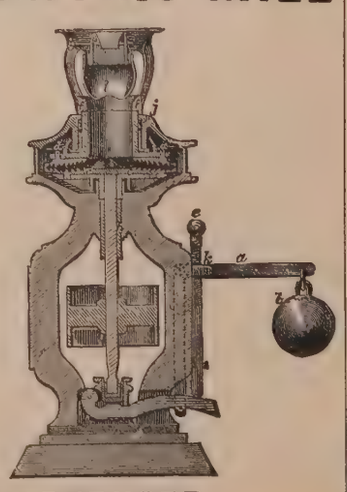
Nos. 3 and 4 for Grinding Wet Substances, Such as Paints in Water, Oil or Varnish Printer's Ink, Paste, Blacking, Starch, and other moist compositions. Many substances above mentioned

Cannot be Ground by Other Mills.

As the peculiar motion of the plates causes them of themselves to discharge the ground substances, which would choke other mills.

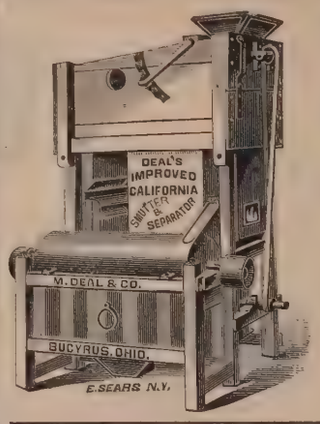
The Mills will do a much larger amount of work than any other Mills in a given time.

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DEAL'S CALIFORNIA

Grain Cleaning Machinery.

We manufacture a complete line of

Cleaners, Scourers AND Brush Machines

For Mills and Elevators.

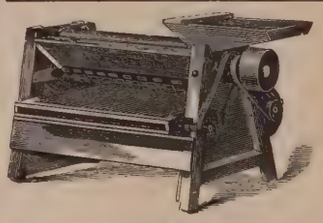
WARRANTED THE BEST IN AMERICA;

The purchaser being the judge after 60 or 90 days trial We guarantee every machine to give entire satisfaction or no pay. Send for circulars; it will pay you.

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"THE GLADIATOR,"

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Flour Mill and Elevator Machinery

OF EVERY DESCRIPTION. PLEASE WRITE US.

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Five Points of Superiority found in our Engine:

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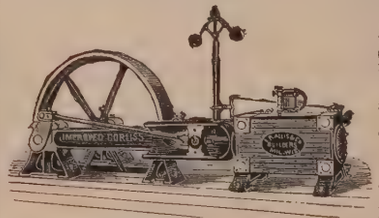
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EDW. P. ALLIS & CO., Props., Milwaukee, Wis.

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REYNOLDS-CORLISS ENGINE!



This engine is especially designed for manufacturing purposes, being strong, serviceable, and of the best material and workmanship. Its even speed makes it especially desirable for flouring mills and elevators.

OVER 250 OF THESE ENGINES ARE NOW IN USE, and references can be given. These engines have developed in expert trial and every day work

THE HIGHEST ECONOMY KNOWN IN STEAM ENGINEERING!

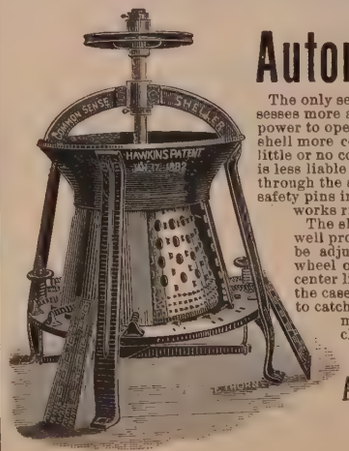
They will save in fuel 33 to 60 per cent. over any ordinary engine.

We also manufacture Reynolds' Patent AIR PUMP and CONDENSER, which can be used with our make of engines, and effect a saving of about 25 per cent. Also REYNOLDS' PATENT FEED WATER HEATER AND PURIFER. Send for Catalogue and Prices to

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Automatic Corn Sheller.



The only self-adjusting automatic sheller in the market. It possesses more advantages than any other known machine; takes less power to operate; and adjusts itself to the size of Ear Corn. Will shell more corn, and that too, without splitting the cob; leaves little or no corn on the cob; grinds and breaks less of the kernels; is less liable to be broken (by having some hard substance pass through the sheller) on account of the flexibility of segments and safety pins in plate—which are of wood and can easily be replaced; works right or left, as may be required.

The sheller represented herewith is made entirely of Iron; is well proportioned and built in a most thorough manner; can be adjusted while being operated, by means of the hand-wheel on the rods connected with the lever supporting the center lift. The case and cylinder are both made of segments. the case staves have a spring to hold the bottom close enough to catch any corn which may be on the cob before leaving the machine, the spring yielding to a large cob, also being close enough for the smaller ones.

Six Sizes Made. Send for Prices.

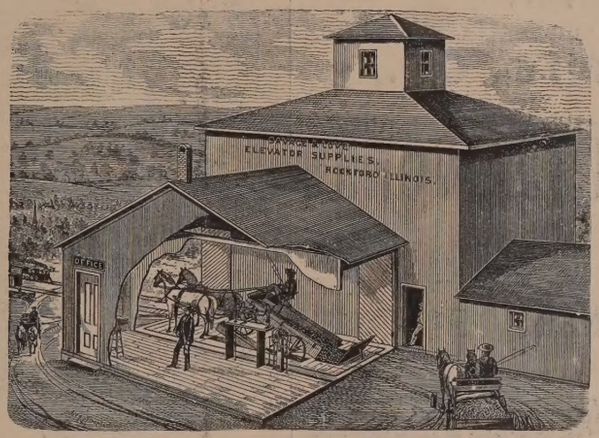
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Manufacturers of Patterns and Special Machinery,

Grain Elevating Machinery,

And all Kinds of Elevator Supplies, Pulleys, Shafting, Hangers, Engines and Boilers, Horse Powers and Feed Mills.



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Our PATENT WAGON DUMP is the BEST and ONLY Controllable Wagon Dump in the market. It is handled with the greatest ease; works smoothly, and injures neither wagon or scales. Manufactured solely by

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Union Flour and Feed MILL!

A combination of Iron Discs and French Burr Stone—a grand and late **improveme it**; grinds with two-thirds the power of any other Mill of same size, and does better work than an all-metal grinder. These mills are especially adapted to our Geared Windmill, and can be run by any other kind of power. We furnish a Bolt at a reasonable price when wanted. ☞ Write for Circulars.

The Best and most Practical as well as the most Durable Mill made for General Purposes, combining New Features never before shown in Flour and Feed Mills.



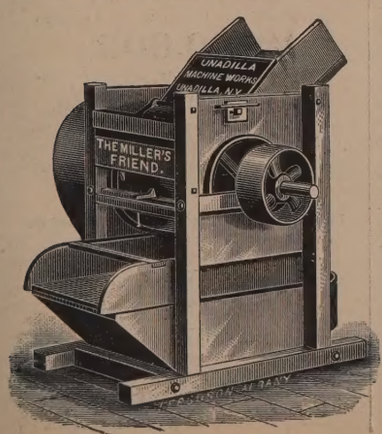
——We are also Sole Manufacturers for the United States of the——

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Corn Sheller!

This Improved Sheller has been in use several years, and has become the favorite among ***Millers*** and ***Farmers*** wherever known, giving the most ***Perfect Satisfaction*** of any Sheller in use.

Having but one rotary shaft, and no cog wheels or extra belts, the friction is reduced to the minimum.

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GREAT WESTERN MFG. CO.,

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Steam Engines,
PULLEYS,
SHAFTING,
GEARING,
FLOUR MILL
—AND—
ELEVATOR MACHINERY
—OF—
Every Description.



CORN
SHELLERS,
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STEAM PUMPS,
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We Carry the Largest Stock of Mill and Elevator Supplies to be found West of the Mississippi River.

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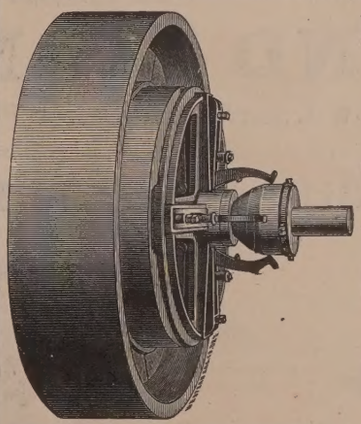
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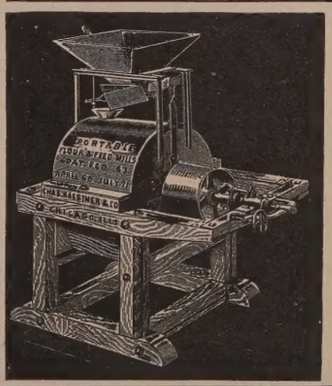
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They are Sure, Strong and Noiseless.

You can start a load with this Clutch, at any speed, with ease and safety.

Also Split Pulleys, Dead Pulleys
And Wood Pulleys Whole.
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Built in Four Sizes, 16, 20, 24 and 30 Inches.
SUITABLE FOR ANY POWER, 2 TO 15 HORSE.

Each Mill Guaranteed to Give Entire Satisfaction, or Money Refunded.

OVER 6,000 IN USE.

Live references in every state and territory. Will grind Wheat, Corn, Rye, Oats, etc. Write for Catalogues, etc

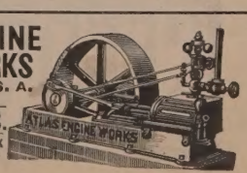
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Machinists, Founders and Mill Furnishers,
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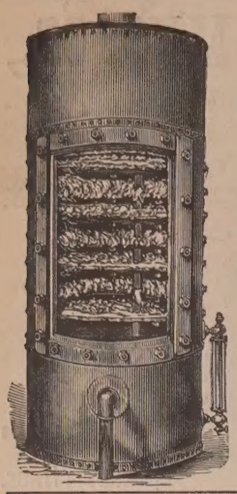
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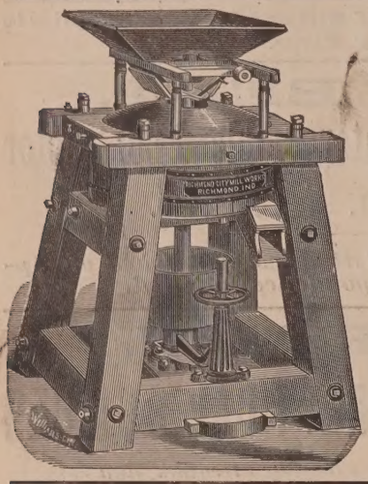
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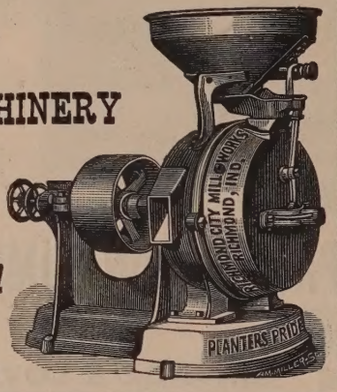
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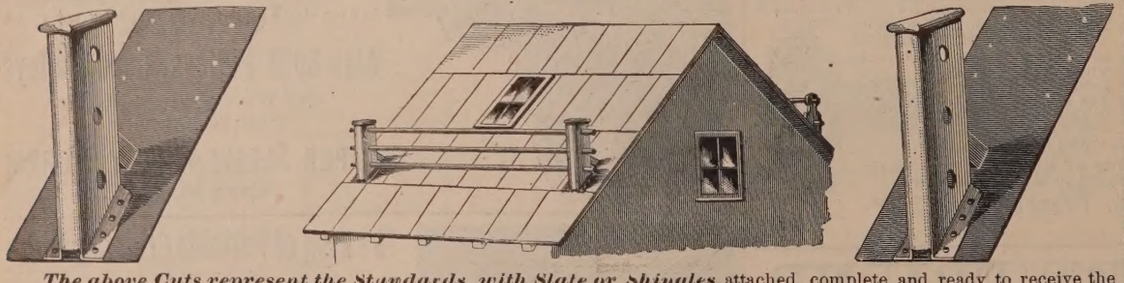
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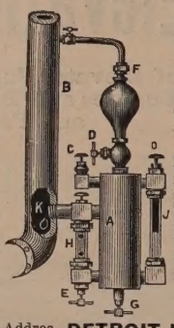
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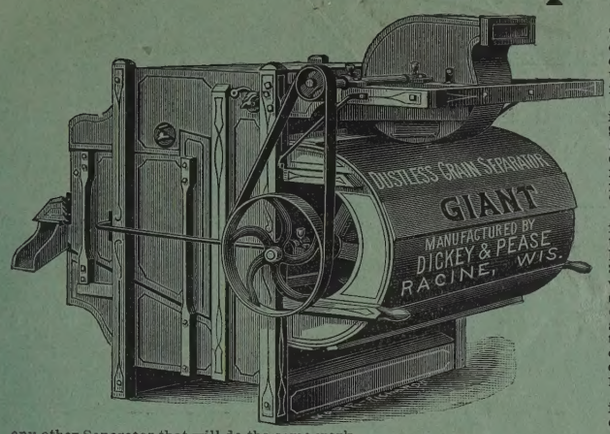
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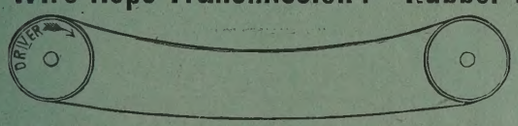
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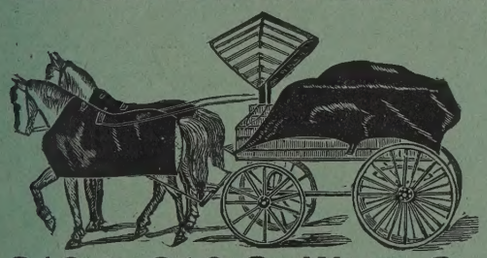
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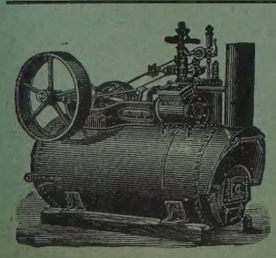
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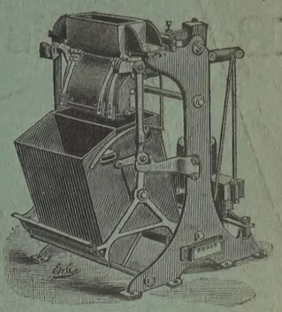
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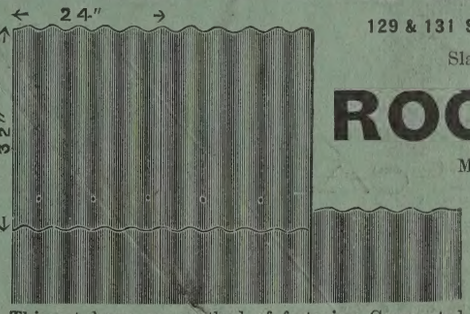
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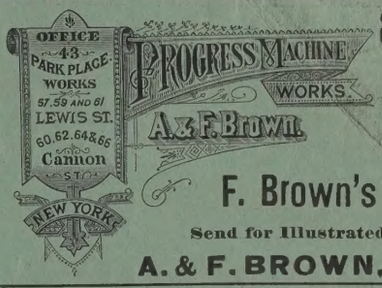
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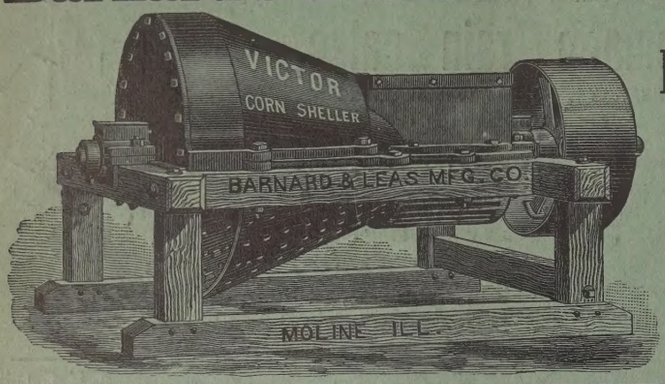
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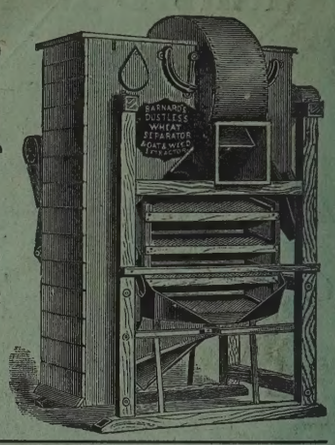
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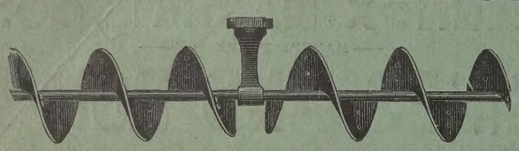
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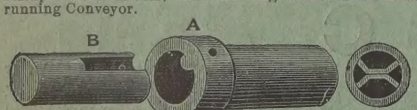
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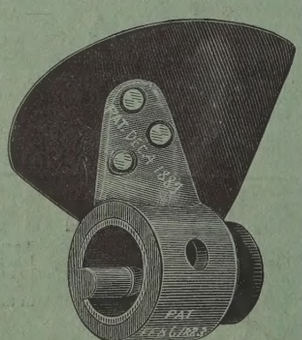


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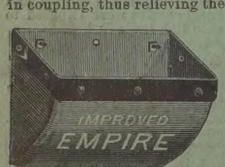
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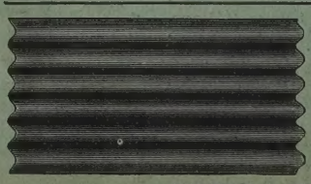
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